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# AMEDD CLINICAL PSYCHOLOGY SHORT COURSE



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13 - 17 June 1988

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AMEDD CLINICAL PSYCHOLOGY SHORT COURSE

13 - 17 June 1988

MADIGAN ARMY MEDICAL CENTER

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## PROGRAM

### Monday Expanding Responsibilities 13 Jun 88

0800	Welcoming Remarks	BG Powell, COL Blece LTC Zold
0845	Army Clinical Psychology in the 90's	COL Chermol
0915	Career Issues in Army Psychology	MAJ(P) Olson
1000	PRP Eval's (Security evaluations)	LTC Grill MAJ Roland
1100	DSMR III-R, Drug & Alcohol	LTC Harig
1315	Independent Psychology Service	LTC Rath
1400	Psychological Autopsies	MAJ Marrot
1430	Expert Testimony in Courts	CPT Paris
1515	Exceptional Family Member Program Historical Background Overview of Program; EFM in Korea EFM in Germany Psychology's Role in EFM	LTC Zold LTC Tripp MAJ Parkinson Dr. Eckert
1800	Social Hour	No Host

### Tuesday Neuropsychology: HIV 14 Jun 88

0800	What Is Normal? (Consultant)	Dr. Dodrill
0900	Neuropsychological Battery for Epilepsy	MAJ Beaty
0930	Rey Auditory Verbal Learning Test	MAJ Powell
1015	California and the Rey Aud Learn Test	LTC Edwards
1045	MMPI with Neurologic Patients	MAJ Cripe
1330	Dementia in HIV	MAJ Klusman
1400	Neuropsychological Aspects of HIV	Dr. Beattie
1430	Psychological Functioning-early HIV	Dr. Franklin
1445	Personality and Immune Function HIV	Dr. Nielsen
1515	Issues for Health Care Providers HIV	Dr. Fair
1600	Neuropsychology and Flight Status	CPT Picano
1645	Summary Remarks	MAJ Cripe

### Wednesday Stress 15 Jun 88

0800	Occupational Stress	Dr. Mangelsdorff
0840	Risk Assessment	LTC Kowal
0920	Program Intervention	MAJ Fullerton
1020	PTSD (Consultant)	Dr. Langer
1110	Psychologists in Special Operations	LTC Greenfield CPT(P) Chin
1140	Summary Remarks	Dr. Mangelsdorff

Thursday  
16 Jun 88

Child

0800	Managing Survivors of Family and Community Violence (Consultant)	Dr. Stephenson
1015	Identification and Treatment of Traumatized Child	
1100	Discussion	MAJ Garland Dr. Anton
1300	Rx Adults Who Were Abused As a Child	LTC Shoberg
1345	Childrens' Responses to Marital Conflict	CPT Johnson
1415	Intra-and Extrafamilial Child Sex Offender	CPT Gahm
1500	Psychostimulants Use in ADD+	LTC Blum
1545	Perspective-Taking Skills and Social Development	MAJ Garland
1615	The Child Clinical Psychology Fellowship	LTC Zold
1900	Automation in Army Clinical Psychology	CPT Russell MAJ Raiha

Friday  
17 Jun 88

Miscellaneous

0800	Centralized Approach to Counseling Services	MAJ Settles
0830	Psychological Consultation and Aviation Medicine	CPT Picano
0900	Sanity Board	CPT Gahm MAJ Small
0930	Recognizing Deception in Interviews	LTC Kowal
1015	Psychotropic Medication with Children	MAJ Small
1115	Course Evaluation Closing Remarks	LTC Zold

## ARMY CLINICAL PSYCHOLOGY INTO THE 1990s

Brian H. Chermol, Ph.D.  
Clinical Psychology Consultant  
Office of The Surgeon General

Significant changes are occurring in the roles of clinical psychologists within the AMEDD. Within the next few years, Army psychologists will assume many of the roles presently restricted to psychiatrists. Some examples are admission of patients; membership on sanity, mental competency and selected medical boards; writing of temporary profiles and of prescriptions from a limited formulary; conducting CPRP, NPRP and security evaluations; and performance of psychiatric discharge examinations. The future also holds special pay for licensure and ABPP certification, the creation of additional separate Psychology Services, and an increase in authorizations. Promotions will remain highly competitive until the 1990s, then become significantly easier, particularly for junior psychology officers. Significant changes will occur in the CPIP, with obligated service being increased by one year, the internship being extended by one to 12 months and graduation returned to the month of August. The 1990s will be rewarding both financially and professionally for those who remain on active duty.

Important changes are occurring in the Army Medical Department (AMEDD) which will substantially increase the scope of practice, patient responsibilities and professional liability of both military and civilian licensed psychologists. During 1988, the Surgeon General gave clinical psychologists the authority to (a) issue temporary (maximum of 30 days) profiles, (b) serve on sanity, mental competency and medical (i.e., psychiatric) boards; (c) conduct the psychiatric examination (Item 42, SF 88) portion of the physical exam; (d) conduct Chemical and Nuclear Personnel Reliability Program (PRP) security evaluations; (e) perform psychological autopsies in suicide cases; and (f) diagnose alcohol and drug related mental disorders. In 1989, this list should expand to include the diagnosis of personality disorders and homosexuality for discharge purposes.

In 1989, the number of separate Psychology Services should increase from one (WRAMC) to five, with the addition of Eisenhower Army Medical Center, Letterman Army Medical Center, William Beaumont Army Medical Center and Bad Cannstadt Army Hospital (Germany). Special pay of \$2,000-5,000/year should be approved by Congress for psychologists with American Board of Professional Psychology certification.

As early as 1990, the Army may extend prescription writing privileges to licensed clinical psychologists on an optional basis, after the completion of formal course work followed by a period of supervised practice. The Physician's Assistant and Psychiatric Nurse Practitioner programs are being reviewed as possible models for the training of psychologists in this task.

Internships will continue to be the focus of concern as sites continue to proliferate in the civilian community, but graduate student output remains static. More money and effort will be expended to recruit interns, the internship will be extended by one to 12 months, and the period of obligated service will be increased by one year - to three years post-internship. Military specific instruction will increase during the internship to prepare

interns for their new roles in the Army. In a related action, neuropsychology (NP) fellowships will also increase by one month in length and NP will become a recognized subspecialty through award of the 9Q suffix.

Recruitment of licensed psychologists and interns will necessitate (a) reinstatement of psychology graduate students in the Health Profession Scholarship Program (HPSP), (b) more psychology quotas in the LTCT for non-68 series officers, (c) more funds spent on advertising and direct recruitment efforts, and (d) the provision of special pay for licensed psychologists (similar to that received by optometrists and veterinarians).

The late 1980s will see a continued increase in the number of AOC 68S authorizations, with a significant number of 06 authorizations being created through the formation of separate Psychology Services and the interchangeability of key staff and Divisional positions between AOCs 68R (social work) and 68S at the Academy of Health Science and major MEDCOMs. The only bad news on the horizon is that 1988 and 1989 will see promotions being very competitive; this situation should ease considerably as we enter the 1990s.

In summary, the 1990s appear to be a period of growth and increasing responsibility for Army psychology. It will also be a time of great financial and professional reward for those who proudly serve on active duty.



THE CLINICAL PSYCHOLOGIST  
AND THE  
PERSONNEL RELIABILITY PROGRAM (AR 50-5)

Dennis J. Grill, Ph.D.  
Letterman Army Medical Center  
Presidio of San Francisco, California

Army Regulation 50-5, Nuclear Surety, establishes the Personnel Reliability Program (PRP) which is applicable to all active duty military personnel, DoD civil service employees, and civilian contract personnel who have access to, or control access to, war reserve nuclear weapons, nuclear components, missile computer tapes and nuclear reactors. One major element of the PRP is the selection, screening, and evaluation of PRP candidates on the basis of defined criteria. For the past two years the author has been the mental consultant to a 300-soldier Military Police Company whose assigned mission is to guard nuclear munitions. In the course of that consultation, the author evaluated many active duty soldiers and made recommendations to command regarding continuance, temporary, or permanent removal from PRP status. An overview of the major elements of the PRP is presented, as well as a discussion of the qualifying and disqualifying factors involved in the psychological evaluation, report writing and recommendations to command.

Although personnel activities and medical treatment facilities have reporting responsibilities, the certifying official--the unit commander--is ultimately responsible for the proper implementation of the PRP program. Personnel from supporting agencies who screen and assist in the continuing evaluation of soldiers assigned to or being assigned to nuclear weapons duties must ensure that all potentially disqualifying information is forwarded to the unit commander for consideration. The decision to qualify or to disqualify a soldier in the PRP is the responsibility of the certifying official, the unit commander.

"Command consultation" is absolutely essential in order for any mental health professional to properly carry out his/her responsibilities as outlined under the provision of AR 50-5. "Mental health consultation" can be defined as a coordinate, interdependent relationship between the consultee, the unit commander, and the consultant (the clinical psychologist). The unit commander seeks the help of the clinical psychologist in properly screening soldiers under the commander's charge to ensure their reliability. The unit commander and the clinical psychologist are co-equals in the consultation process; both are experts in their own fields. The unit commander is intimately aware of his unit's mission and the personal characteristics necessary for his soldiers to accomplish that mission. The clinical psychologist is an expert in human behavior, and the two must cooperate and provide each other with the information necessary to accomplish the mission.

## SCREENING AND EVALUATION PROCEDURES

The concept of personnel reliability is a vital element in the Personnel Reliability Program. While the clinical skills of the psychologist may allow him to hypothesize about a soldier's future behavior with greater or lesser degrees of accuracy, the unpredictability of human behavior precludes any positive test of reliability. A soldier may be presumed to be reliable when there is no evidence to the contrary. Acceptance and retention in the PRP are therefore determined by the unit commander on the basis of the presence or absence of a soldier's reliability or unreliability.

DA Form 3180 is used to identify individuals who require screening and evaluation. The process begins with the unit commander conducting an initial interview with an incoming soldier. The commander reviews qualifying and disqualifying characteristics, explains the importance of the assignment, and that the soldier's personnel and medical records will be screened for disqualifying information. If the soldier is acceptable for further screening, the commander terminates the interview and initiates the medical and personnel screening.

## QUALIFYING AND DISQUALIFYING FACTORS

Both personal and medical screening authorities review the appropriate records for information which may indicate unreliability. The qualifying and disqualifying factors in the PRP are listed at Appendix A. As clinical psychologists and consultants to PRP commanders, we are often asked to evaluate soldiers whose past or present behavior casts doubt on the soldier's reliability. Close consultation with the unit commander and familiarity with the unit's mission is essential in order to properly conduct this evaluation. The report written for the commander must be understandable and communicate the information necessary for the unit commander to make a judgement as to the reliability or unreliability of the soldier in question.

## THE EVALUATION REPORT

Attached as Appendix B is a sample evaluation report. This report is composed of five paragraphs: (a) identifying data, (b) pertinent history, (c) mental status examination, (d) impression, and (e) comments/recommendations. Sample comments/recommendations are attached as Appendix C.

## APPENDIX A

### AR 50-5--Nuclear Surety Chapter 3--Personnel Reliability Program Section III--Screening & Evaluation Procedures

3-11. Qualifying factors. In the absence of disqualifying evidence, selection of personnel for training and assignment to nuclear duty positions will be based on the following desirable qualifications:

(a) Evidence of physical competence, mental alertness, and technical proficiency or aptitude commensurate with duty or training requirements.

(b) Evidence of dependability in accepting and exercising responsibility and effectively accomplishing duties in an approved manner and evidence of flexibility in adjusting to changes in a working environment.

(c) Evidence of social adjustment, emotional stability, and the ability to exercise sound judgement when confronted with adverse or emergency situations.

(d) Evidence of a positive attitude toward duties involving nuclear weapons and the objective of the PRP.

### 3-12. Disqualifying Factors.

(a) Any of the medical conditions, abuse of drugs and/or alcohol, traits, or behavioral characteristics listed below will be considered disqualifying for nuclear duty training or assignment unless overriding evidence of reliable duty performance exists.

#### (1) Alcohol abuse.

(a) Any irresponsible use of an alcoholic beverage leading to misconduct; unacceptable social behavior; impairment of an individual's performance of duty, physical or mental health, financial responsibility, or personal relationships.

(b) Persons who are medically diagnosed as dependent upon alcohol will neither be selected for nor retained in the PRP and are not eligible for requalification until satisfactory completion of the Alcohol and Drug Abuse Prevention and Control Program (ADAPCP) rehabilitation (Track III residential treatment and follow-up).

#### (2) Drug Abuse.

(a) Drug abuse is the illegal, wrongful, or improper use of any narcotic substance or its derivative, cannabis or its derivatives, or other controlled substance or the illegal or wrongful possession, transfer, or sale of these substances. When any drugs have been prescribed by authorized medical personnel for medicinal purposes, their proper use by the patient is not drug abuse. It is not intended that isolated or experimental use of cannabis or its derivatives be automatically disqualifying. The certifying official must decide whether such experimental or isolated use has adversely affected the individual's reliability.

(b) Persons who are medically diagnosed as dependent on any narcotic substance or its derivatives, cannabis or its derivatives, or other controlled substance will neither be selected for nor retained in the PRP and are not eligible for requalification until satisfactory completion of ADAPCP rehabilitation (Track III residential treatment and follow-up).

(c) Persons who have used a hallucinogenic drug with a potential for flashback (to include LSD, PCP or its derivatives, psilocybin, mescaline, or any other substances with similar properties) will neither be selected for nor retained in the PRP under any circumstances.

(3) Negligence or delinquency in performance of duty.

(4) Nonjudicial punishment.

(5) Conviction(s) by a military or civil court of a serious offense.

(6) A pattern of behavior or actions that is reasonably indicative of a contemptuous attitude toward the law or other duly constituted authority.

(7) Any significant physical or mental condition substantiated by competent medical authority, or any characteristic or aberrant behavior that in the judgement of the certifying official is prejudicial to reliable performance of nuclear duties.

(8) Poor attitude or lack of motivation.

(b) When an individual is disqualified because of overriding evidence of unreliable duty performance, the certifying official may make the circumstances a matter of record if deemed necessary.

(1) Information that the certifying official believes should be brought to the attention of future certifying officials may be noted on the reverse of the DA Form 3180. Notations made must not be in violation of AR 600-37.

(2) Adverse information that the certifying official considers to be potentially disqualifying and that is not a matter of official record may be placed in the soldier's file in accordance with AR 600-37. The servicing civilian personnel officer (CPO) should be requested to document adverse information on civil service personnel in accordance with applicable Federal Personnel Manuals. Appropriate adverse information will also be reported to CCF, using DA Form 5248-R (Report of Unfavorable Information for Security Determination) in accordance with AR 604-5.

## APPENDIX C

### COMMENTS AND RECOMMENDATIONS

1. This individual meets the retention standards prescribed in Chapter 3, AR 40-501, and there is no psychiatric disease or defect which warrants disposition through medical channels.
2. This soldier suffers from a mental illness or condition (to include personality disorder) that may cause significant defects in his judgement or reliability.
3. This soldier does not suffer from a mental illness or condition that would cause significant defects in his judgement or reliability.
4. This soldier did suffer from a mental illness or condition that caused significant defects in his judgement or reliability, however, this condition is now in full remission and there is no residual defect which impairs his judgement or reliability.
5. This soldier is undergoing evaluation at this time and a statement addressing possible significant defects in judgement and reliability would be premature.
6. This condition and the problems presented by this individual are not, in the opinion of this examiner, amenable to hospitalization, treatment, transfer, disciplinary action, training, or reclassification to another type of duty within the military. It is unlikely that efforts to rehabilitate or develop this individual into a satisfactory member of the military will be successful.
7. Based solely upon this evaluation, it is difficult to make a definite statement regarding the rehabilitative potential of this soldier. Such determination must be made by command on the basis of this soldier's ability to adjust to his/her unit and his/her performance on the job. It is likely, however, that further rehabilitative efforts will not be effective (or will be effective).
8. From a psychiatric/psychological point of view, this soldier demonstrates motivation for continued service, and there appears to be sufficient basis to warrant further rehabilitative efforts by command.
9. This soldier is psychiatrically cleared for any administrative (or judicial) action deemed appropriate by command.
10. Based solely on clinical evidence, the need for specific rehabilitative measures has not been demonstrated, and, from a psychiatric/psychological point of view, the soldier is considered to have the capacity for functioning effectively.



DEPARTMENT OF THE ARMY  
LETTERMAN ARMY MEDICAL CENTER  
PRESIDIO OF SAN FRANCISCO, CALIFORNIA 94129-6700

REPLY TO  
ATTENTION OF:

HSHH-YCP

13 Jun 88

MEMORANDUM FOR: Commander, 980th Military Police Company,  
Sierra Army Depot, Herlong, CA 94129

SUBJECT: Psychological Evaluation  
RE: Snuffl, Joseph E., PVT, 123-45-6789

1. IDENTIFYING DATA: This paragraph should include complete identifying data for the individual, the date of the evaluation, the administrative purpose for which the evaluation is required or recommended, and the requesting source of the evaluation.
2. PERTINENT HISTORY: This paragraph should contain a concise summary of the individual's present problems, situations, illness, etc., pertinent to this specific request for evaluation (include any pertinent past social/medical history, as necessary).
3. MENTAL STATUS EXAMINATION: This paragraph should contain a concise summary of the individual's mental status. The words used should be those understandable to the commander.
4. IMPRESSION: This paragraph should contain a diagnosis using DSM-IIIR nomenclature. In the absence of a diagnosis, "No psychiatric disorder (V71.09)" should be used.
5. COMMENTS/RECOMMENDATIONS: This paragraph should contain all the necessary statements, as sub-items, that convey the evaluator's findings and recommendations. The statements should relate sufficient information to the commander for him to make an informed decision regarding a soldier's PRP status. Sample statements are attached as another appendix.

DENNIS J. GRILL  
LTC, MS  
Clinical Psychologist

COLLATERAL INFORMATION:  
CRUCIAL SOURCES IN CONDUCTING  
RETENTION, PERSONNEL RELIABILITY AND SECURITY EVALUATIONS

Robert R. Roland, Psy.D.  
Health Psychology Fellow  
William Beaumont Army Medical Center  
Ft. Bliss, Texas

The future role of the military psychologist is expanding in a number of areas that are critical to the basic needs of the Armed Forces. Specifically, Army clinical psychologists will be asked to render opinions and recommendations on the retainability, personal reliability, and trustworthiness of service members to a far greater extent than in years past. Traditional assessments conducted by mental health professionals can inadvertently overlook facets of an individual's background and performance. Clinicians must be aware of the collateral sources of information that are readily available on most soldiers and how to integrate the valuable data these sources provide into a thorough assessment. The purposes of this article are to familiarize the psychologist with these sources while suggesting effective ways to collect the data and decide how the information assembled may be relevant to the task at hand. A checklist of information and sources that may be related to these sorts of evaluations is provided for reference, and a sample assessment format is presented.

The debate surrounding the role of a psychologist in evaluations for retention, personnel reliability and security positions is alive and well in the professional and popular literature (Dentzer, 1988). Among the issues that surface continuously are (a) the true effectiveness of assessments when client and psychologist are at cross-purposes (Jagim et al., 1978; Muehleman et al., 1985); (b) the duty to inform the client of the possible outcomes of testing (Stanzak, Bolter, & Bernard, 1982); (c) the confusion regarding these issues (Jeffrey, 1987). Careful reviews of these topics are well represented in prior papers (See Gillooly, 1985; Grant, 1980; Guion, 1983; Dunnette & Borman, 1979) and are very valuable to an understanding of this entire area of professional practice.

The basic assumption one makes as a military psychologist is that at some point he will be called upon to conduct just such an evaluation. This will surely happen, irrespective of any objection to the contrary or personal convictions which are not in concert with the military legal/administrative system. If this is the case, how does one balance his own values and professional concerns with any conflict the task at hand might present? It would seem reasonable to take a practical approach to this process by first investigating what others are doing or have done to conduct thorough and appropriate assessments.

The notion of reliability evaluations for specific assignments has been with the military for decades (Melton, 1954) and receives constant if not enthusiastic upgrading with each successive generation of military psychologists (Edwards, 1985). Testing has usually played a significant role in this process (Butcher, 1979; NCS, 1985). This is especially so in the areas

of law enforcement and security work (Bernstein, 1980; Sacuzzo et al., 1974). What has been lacking has been an integration of testing, performance, demographic, and personal information using a readily obtainable stream of data that is quite comprehensive.

It would seem that a good framework for collecting and organizing these pieces of the assessment is not currently in place or else it is well hidden. This sort of framework could provide for a selection strategy as suggested by Kowal (1985) and a greater degree of sophistication in the process. Suggestions abound in the civilian literature with forensic work being a fertile area of study (Shapiro, 1984). A modest attempt at a framework/checklist for conducting these sorts of assessments follows. Specific applications will require modification, and circumstances may not permit the collection of all data suggested. Perhaps a more difficult challenge would be the standardization of a format for military-wide use. This would be a worthy goal to attain some consistency in forensic work.

Unquestionably, the place to start in any of these assessments is with the referral source. Educate them about what is expected in their request for consultation. This pays huge dividends in future time and energy savings on the part of the psychologist and the client agency. The psychologist should become familiar enough with the agency so that data sources, regulatory, legal and command relationships are understood. Understand these issues first before any evaluation is undertaken and use them to evaluate what the individual being assessed will be asked to do for that agency. Job descriptions are helpful but sometimes these data cannot be provided. In this case, ask for a general behavioral description of the job without the high tech/security specifics.

When you understand the referral source and its expectations, it is relatively easier to get more specific and varied information. Likewise, one becomes familiar with the unspoken standards of the agency and how individuals must measure up to those standards. A first line supervisor may have a far different opinion of an individual than a commander, and the "unit" may not know the person well at all. At all costs, avoid completing an evaluation for an agency that will not cooperate in this process of mutual information exchange. Many times these units are trying to conform to a regulatory requirement with the referral but they have not done their homework. A sample "Request for Consultation" is at Appendix A.

Make it a practice to always review medical records as a part of an assessment. This should include a review of the entire record, including any current physical examinations, notes, consults, and labs. Make a note of PRP or flight status and any previous suspensions. Get an idea of the General content of the record and any unusual discrepancies. The file should be reasonable for time-in-service, and not weighed by the pound. Also, make sure to check if there are any files in your office on this individual. This entire process can take less than 10 minutes and is well worth the effort. Often it will generate questions for the interview.

As a part of the in-processing or interview, obtain a release form and any other documents that may be required in order to complete the evaluation and forward the results. Be clear about your role in the assessment as an agent of the system and explain what will happen during the evaluation. Expect appropriate anxiety as a job may be depending upon the outcome. Ask if the subject is clear about the purpose of the evaluation and what the job will



require of him. Confirm some simple data with them and be aware of any questionable memory gaps. Note any unusual physical appearance or disabilities that may be readily detectable.

Testing data and an appropriate battery will be dependent upon many variables, and past behavior may be a better discriminator. Two important considerations are (a) is this testing to be used for inclusion or exclusion? and (b) is a degree of pathology a positive or negative trait? Always compare the test data with facts that are already known (i.e., a Shipley score with a GT). This can give important clues to the client's approach and intention. Never do a test-only evaluation or a "blind" interpretation. These may be academically interesting but can result in disaster.

A sample format of a common report is included in this paper (Appendix B). One page should be more than enough for these sorts of evaluations, primarily because few if any referral sources will understand test data. State the facts clearly and list the pertinent results. A simple statement of facts that a unit may be unaware of is usually enough to show that you have done a complete job. Your case should be supported by test data and interview impressions. Make a clear recommendation in simple terms, give them a bottom line. Attach a DA Form 3822-R (Report of Mental Status Evaluation) to your report and make sure to note on the 3822-R that there is another page attached. Do not write an interim report. Units will often take action based on your verbal or preliminary findings, and these findings may not be completely correct. Be aware of any special safeguards that may be necessary for your report and assessment data. If you have any questions, make sure to clarify them with the unit.

An "Information and Sources Checklist" at Appendix C summarizes the information included in this paper. Each organization and agency will present a unique set of variables in the consideration of assessments, and these interactions must be a part of the evaluation. In presenting a generic outline of a report and collateral information sources, it is the author's hope that each military psychologist continues to improve upon this tentative system.

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APPENDIX A  
REQUEST FOR CONSULTATION  
(Sample Format)

**FROM:** Include at a minimum, Headquarters address, Phone, Requester's Name and their command relationship.

**PURPOSE OF EVALUATION:** Prepare two copies, attach supplementary reports, other pertinent information including detailed job descriptions for security and reliability evaluations.

<u>PERSONAL DATA</u>	Name:	Grade:	SSN:
	Unit:	Phone:	GT/Education:
	Age:	T.I.S.:	MOS:
	Months in Unit:	Duty Assignment:	
	ETS:	Marital Status:	
	Dependents:	Other:	

**BEHAVIOR REPORT:**

1. Conduct an efficiency rating, list last report results and or any significant information, i.e. promotions, awards, etc.
2. General appearance, attitude, PT score.
3. Attitude at work, with others, and toward superiors.
4. List significant actions pending or previous.
5. List personal/family circumstances affecting behavior +/-.

**OTHER REMARKS OR SPECIAL CONSIDERATIONS:**

APPENDIX B



DEPARTMENT OF THE ARMY  
UNITED STATES MILITARY ACADEMY PREPARATORY SCHOOL  
FORT MONMOUTH, NEW JERSEY 07703

REPLY TO:  
ATTENTION OF:  
Dr. Roland

5 May 1988

COMMANDER  
\_\_\_\_ Brigade \_\_\_\_  
ATTN: LTC \_\_\_\_  
SPECIAL ACTIONS OFFICE

SUBJECT: Command referral of CPT GARY L. \_\_\_\_ for position of Commander,  
Special Reaction Team (SRT).

1. As per your Command request dated 2 May 1988 the following report is submitted. This 34 year old male active duty Infantry Officer is being evaluated for selection as Commander SRT. Unit records, Medical records, Officer Record Brief, Command endorsements and detailed job description of the SRT were reviewed in conjunction with an extensive testing battery. Interviews were conducted on 2 and 4 May 1988. Cpt \_\_\_\_ signed appropriate releases.
2. Pertinent Results: Cpt \_\_\_\_ has been on station 4 months. He is a 1978 graduate of the United States Military Academy who came through the enlisted ranks through the USMA Preparatory School. He has had one prior command experience in Korea of 7 months duration for which he received no military award. He has a break in service to attend a Graduate Business School where he completed 13 semester hours in 2 years. He states that a divorce from his first wife resulted in financial difficulties and his return to active duty. His Medical records contain several annotations of note; specifically 2 injuries treated in Emergency Rooms without follow-up and a lab slip with a high Blood Alcohol and no corresponding treatment record. There is a current active case file in the Family Advocacy Program and he is separated from his 2nd spouse.
3. Testing: Psychological Assessment reveals above average intelligence with predominantly concrete thinking patterns. Interpersonal adjustment difficulties are suggested as are nonconformity and impulsiveness. He leaves an excellent first impression which is superficial. He can be hostile and aggressive with no remorse. This is a stable profile indicating a long-standing behavior pattern that is supported by his records.
4. Recommendations: Cpt \_\_\_\_ is ill-suited for the sort of position described in the SRT Commander job description. I recommend that he not be placed in this position. DA Form 3822-R (Report of Mental Status Evaluation) is attached.

1 Encl.

ROBERT R. ROLAND  
MAJOR, MS  
CLINICAL PSYCHOLOGIST

# APPENDIX B

<b>REPORT OF MENTAL STATUS EVALUATION</b> <small>For use of this form, see AR 635-200; the proponent agency is MILPERCEN</small>		
NAME	GRADE	SOCIAL SECURITY NUMBER
Gary L.	CPT/O-3	
<b>REASON FOR EVALUATION</b>		
1. REQUEST A MENTAL STATUS EVALUATION FOR THE ABOVE NAMED SERVICE MEMBER WHO IS BEING CONSIDERED FOR DISCHARGE BECAUSE OF <input type="checkbox"/> PERSONALITY DISORDER <input type="checkbox"/> MISCONDUCT <input type="checkbox"/> REQUEST FOR DISCHARGE FOR GOOD OF SERVICE <input checked="" type="checkbox"/> OTHER (See Remarks) <small>NOTE: IF NECESSARY, INCLUDE SPECIFIC REASONS IN REMARKS</small>		
<b>EVALUATION (Check all that apply) During Interviews</b>		
2. BEHAVIOR <input type="checkbox"/> HYPERACTIVE <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> PASSIVE <input type="checkbox"/> AGGRESSIVE <input type="checkbox"/> HOSTILE <input type="checkbox"/> SUSPICIOUS <input type="checkbox"/> BIZARRE		
3. LEVEL OF ALERTNESS <input checked="" type="checkbox"/> FULLY ALERT <input type="checkbox"/> DULL <input type="checkbox"/> SOMNOLENT		
4. LEVEL OF ORIENTATION <input checked="" type="checkbox"/> FULLY ORIENTED <input type="checkbox"/> PARTIAL <input type="checkbox"/> DISORIENTED		
5. MOOD OR AFFECT <input type="checkbox"/> ANXIOUS <input type="checkbox"/> FLAT <input checked="" type="checkbox"/> UNREMARKABLE <input type="checkbox"/> DEPRESSED <input type="checkbox"/> LABILE <input type="checkbox"/> MANIC OR HYPOMANIC		
6. THINKING PROCESS <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/> CONFUSED <input type="checkbox"/> BIZARRE <input type="checkbox"/> LOOSELY CONNECTED		
7. THOUGHT CONTENT <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> ABNORMAL <input type="checkbox"/> HALLUCINATIONS <input type="checkbox"/> PARANOID IDEATION <input type="checkbox"/> DELUSIONS		
8. MEMORY <input checked="" type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR		
<b>IMPRESSIONS (Check all that apply)</b>		
9. IN MY OPINION, THIS SERVICE MEMBER <input checked="" type="checkbox"/> HAS THE MENTAL CAPACITY TO UNDERSTAND AND PARTICIPATE IN THE PROCEEDINGS <input type="checkbox"/> WAS MENTALLY RESPONSIBLE <input checked="" type="checkbox"/> MEETS THE RETENTION REQUIREMENTS OF CHAPTER 3, AR 40-501 <input type="checkbox"/> NEEDS FURTHER EXAMINATION (See remarks) <input checked="" type="checkbox"/> OTHER (See Remarks)		
<b>REMARKS</b> 1. This report is based upon a Brigade Command request to screen applicants for command of a Special Reaction Team. 2. Complete narrative is attached. 3. Mental status is within normal limits (grossly) on examination. 4. Contact the undersigned if further evaluation or information is needed. 5. This report consists of 2 pages.		
DATE	SIGNATURE	
5/5/88	Robert R. Roland, Major MS	

DA FORM 3822-R, OCT 82

EDITION OF 1 MAR 80 IS OBSOLETE

APPENDIX C  
INFORMATION AND SOURCES CHECKLIST

1. THE REFERRAL:

- A. Educate the referral source.
- B. What data is available?
- C. Exactly what are they asking you to do?
- D. On what basis, i.e., Regulation, Legal, Medical?
- E. Do they have the authority to ask, who wants to know/name and phone?
- F. Can you legally do the consultation?
- G. Is the task clear to you and behaviorally defined?

2. UNIT INFORMATION:

- A. What do you know about the referral source/unit and person?
- B. How are they judging this person, how well do they know them?
- C. What does the first line supervisor think?
- D. Any administrative actions, Art. 15s, counselings, etc.?
- E. Request all pertinent documents.

3. MEDICAL RECORDS:

- A. Records must accompany individual.
- B. NEVER do an evaluation without looking at the medical records.
- C. Review the entire record, lab slips, entrance and annual physicals, notes.
- D. Are they PRP or Flight status?
- E. What is the general content, is it reasonable for T.I.S.?
- F. Any unusual problems or discrepancies?
- G. Do you have a file in your office on this person? Check!

4. INTERVIEW:

- A. Get a release form.
- B. Physical appearance.
- C. Be clear about your role as an agent of the system.
- D. Do they understand the purpose of this evaluation?
- E. Do they know what the job requires of them?
- F. Explain what you will be doing, expect appropriate anxiety.
- G. Confirm some simple data, be aware of any questionable memory gaps.

5. TESTING DATA:

- A. Selection of tests. Criterion referenced.
- B. Is behavior a better or collateral discriminator?
- C. Inclusion or exclusion.
- D. Is pathology a + or - in this case?
- E. How do the results square with the background data?
- F. Never do test-only evaluations!
- G. Confirm, confirm, confirm.

6. FEEDBACK:

- A. Does the individual have or can he get access to the results?
- B. Inform them of the disposition of the report.
- C. Defer any feedback until you look at all the data.
- D. Think about it, collect more data if needed.
- E. Your recommendation may not affect the outcome.

7. THE REPORT:

- A. State the facts.
- B. State the results.
- C. Give conclusions and how you verified them.
- D. Make a Clear recommendation, state it in simple terms.
- E. Do not write an interim report. Agencies will act on them.
- F. Are any special safeguards of data necessary in the report or your files?
- G. Talk to the referral source should any doubts or questions arise.

## PERSONNEL RELIABILITY WHO'S WATCHING THE WATCHERS?

Dennis M. Kowal, Ph.D.  
INSCOM  
Arlington Hall Station  
Arlington, Virginia

Within the Intelligence Command, there is a paramount need to insure the protection of national security and the maintenance of the emotional health and well being of workers in the work place. Unreliable behavior by an employee whose work is related to the handling and processing of highly sensitive security materials can easily create an intelligence compromise of major proportions.

Conservative estimates of the prevalence of unreliable behavior in the general population range from 8% to 15%. This means that there is both a qualitative and a quantitative risk present in society and in our organization. As a consequence of this risk, we have the duty to utilize all reasonable procedures and techniques for insuring the behavioral reliability of individuals occupying critical/sensitive positions.

Given the risk of the potential harm that can result from acts of unreliable behavior on the part of individuals working in critical positions or with sensitive material, there is a compelling need to implement procedures which assist in minimizing such a possibility. The psychological assessment component of the Personnel Reliability Program (PRP) is designed to achieve this goal by helping to assess suitability at selection and maintain the emotional stability and reliable individuals by monitoring them for the most common signs of emotional or behavioral unreliability.

There are two components of this personnel reliability screening. First, during selection and assessment techniques are employed to insure the entrance of behaviorally reliable and emotionally stable personnel. This process considers both psychological characteristics, which predispose someone to instability, as well as collateral information such as background investigations (i.e., credit checks, law enforcement agency checks, and school performance) which indicates the behavioral control capability of the individual. Second, monitoring and periodic reevaluation are conducted to ensure the continued validity of selection decisions and to identify any individual who may subsequently demonstrate "at risk" behaviors resulting from medical, psychological, or social changes which have occurred since his initial assessment.

### Initial Assessment Procedure

Psychological assessment procedures are particularly suited for providing a basis for identifying individuals who may have a predisposition for behavioral unreliability. In the private sector, the use of psychological assessment procedures as part of a comprehensive program for maximizing behavioral reliability is widespread. In the intelligence community these data, when integrated with the collateral sources of information, background and agency components of the PRP, represent an effective and economical suitability evaluation technique. Taken in conjunction with information



developed from the security components of the PSRP, psychological assessment procedures can assist in making determinations regarding an individual's potential for intentionally or unintentionally engaging in acts of unreliable behavior or being at risk for compromise that is associated with these behaviors.

The psychological instruments which have been selected for initial assessment are the 16 Personality Factor Test (16 PF), Minnesota Multiphasic Personality Inventory (MMPI), and a structured interview conducted to assess integrity. These techniques have been demonstrated to be sensitive instruments for identifying and measuring personality factors which indicate emotional instability. Among these are poor reality testing, extremes of depression or hyperactivity, character defects leading to impulsive, disruptive or risk-taking behavior and loss of functional efficiency under stress, and potential for substance abuse.

### Monitoring Behavior

The need for personnel reliability does not cease after selection but requires that the individual be continually monitored for indications of behavioral risk within his life cycle with the unit. This has proven difficult to achieve due to social and personal forces that cannot be explored here. While selection screening evaluates both current and past emotional functioning, no screening is without error. Moreover, those found to be reliable at the time of selection are subject to physical and emotional changes that may inevitably place them at risk. Accordingly, indicators of difficulty in coping are important to recognize as potential signs and symptoms of behavioral risks which may emerge if these problems are not recognized, allowed to continue without identification, or not corrected in a timely manner.

Monitoring emotional stability involves training co-workers and supervisors to recognize the early signs of potential coping difficulty and providing intervention mechanisms to clarify emotional status, resolve crises, or control their impact. The attached list exemplifies early indicators which should be recognizable to supervisory personnel. When these signs or symptoms are recognized, the supervisor/coworker could refer individuals for psychological evaluation to determine mental status of the employee and the presence of a substantial potential risk. Suitability/retainability standards for such evaluation will not be the same as those applied at the time of selection screening, since the investment in the individual and the existence of an organizational support mechanism mitigate the negative impact. Emphasis at this stage is on early recognition of "at risk" behavior, both to minimize potential consequences and to aid in resolving individual difficulties which might otherwise threaten emotional health and the employee's ability to contribute in the work place.

### Recognition and Monitoring Procedures

The subject matter addressed by this PRP component is applicable to those aspects of behavior and behavior change which are relevant to the safe and effective performance of the individual's assigned job. There is no assumption of a requirement for fitness beyond the job; but this PRP component applies also to those personal aspects which may affect his suitability to remain associated with a special missions unit.

There are three elements to this Personnel Reliability Program component:

- (1) Recognition of behavior change when it occurs.
- (2) Reporting of behavioral change when it is recognized.
- (3) Responding to behavioral change when it is reported.

To ensure maximum effectiveness of these components, employees, supervisors, and management will be trained to recognize, report, and respond to job-related behavior change if it occurs. This training will be made a part of the organization's existing program for training supervisors to effectively monitor and evaluate the job performance of their supervisees. Procedures for assessing employee job performance will be expanded to include the detection of job-related behavior change. Many of the indicators of job-related behavior change are readily detectable by an attentive supervisor. For this reason, there is no need for supervisors and management to function as psychologists or psychiatrists. A modest amount of training typically is sufficient to enable individuals to effectively integrate the requisite observational techniques into already-existing observational skills they possess as supervisors.

Reporting and responding to job-related behavior changes is also a routine supervisory function. There are routine management procedures for responding to employees who come to work late or who show impaired job performance. Typically, such procedures are constructive and educational, rather than punitive. Whenever job-related behavioral unreliability is observed, supportive intervention/transfer to noncritical positions will be the preferred administrative response. Administrative procedures for this PRP component will include explicit decision-making rules, opportunities for "second opinions" (where appropriate), and opportunities for appeal when administrative decisions are contested by an employee.

DSM-III(R) DIAGNOSIS AND MANAGEMENT  
OF PATIENTS WITH DRINKING PROBLEMS

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TRI-Service Alcoholism Recovery Department  
Bethesda Naval Hospital  
Bethesda, Maryland

Every year, 26,000 new cases of alcohol abuse or alcohol dependence are identified and treated in Army rehabilitation programs. Another 14,000 soldiers receive alcohol awareness education for identified drinking problems. Triage of persons who present alcohol disorders requires familiarity with DSM-III(R) criteria for diagnosing Psychoactive Substance Use Disorder, competence with standard screening instruments such as the Michigan Alcoholism Screening Test and CAGE, and application of staging principles to determine the appropriate level of care. This paper reviews current diagnostic criteria and considers strategies for managing the patient with alcohol problems. A discussion of the three levels of treatment and a paradigm for triage are included.

Prior to 1970, the military's focus on alcoholism was chiefly on its punishable consequences. Then, with the enactment of Public Law 92-129, The Armed Forces Drug and Alcohol Abuse Prevention, Treatment and Rehabilitation Act in 1971 (10 U.S. Code 1071), the attitudes and policies of the Defense Department started to shift towards the view that alcoholism was a treatable condition, vigorous efforts were directed toward encouraging alcoholics to seek treatment, and new programs were being established to meet their needs. The DoD commitment to alcoholism rehabilitation has since grown enormously. For example, at least 26,000 cases of alcohol abuse or dependence were identified and treated annually in Army alcoholism rehabilitation programs during FY87, and another 14,000 soldiers received alcohol awareness education for drinking problems. AR 600-85, The Army Drug and Alcohol Prevention and Control Program (ADAPCP), fashions a comprehensive system that includes command sponsored alcohol awareness training, nonresidential (outpatient) services on the installation level and inpatient/residential treatment at regional military hospitals. A primary objective is to provide a manpower conservation program which minimizes personnel loss and enhances personal effectiveness. Commanders are encouraged to send subordinates for treatment unless it is "no longer practical" to provide additional treatment and a "rehabilitation failure" has occurred. Treatment can become a condition of continued military service, since service members can be involuntarily separated for refusal of treatment when it is deemed appropriate. Many patients self-enroll in treatment over marital problems or personal distress before being detected by their commands. They represent the earliest detectable stage of drinking problems. Under service regulations, an automatic command-referral occurs when certain alcohol-related incidents occur, such as motor vehicle incidents, reports of family violence, and emergency room presentations where alcohol is confirmed as a significant contributing factor. Referrals for impaired job performance can also occur, although it has been noted that military alcoholics are frequently considered better-than-average workers who elude detection by supervisors.

The Army model provides three levels (tracks) of treatment, governed by problem severity and history. Triage of individuals with drinking problems occurs at the community level through collaboration between alcoholism

counselors, medical personnel, and commanders. Level I is Alcohol Awareness Education provided through structured classes and targeted at the problem drinker who is not necessarily diagnosable for alcohol abuse under clinical guidelines. The typical participant is a young enlisted service member with a single alcohol-related incident. The program is an adaptation of the Department of Transportation's Alcohol Safety Action Projects (ASAPs) which were designed as a countermeasure to drunk driving, but were expanded by the military to include prevention of all subsequent alcohol related incidents by providing basic education on the pharmacological effects of ethanol, as well as by focusing participants on the adverse effects and consequences of alcohol abuse in order to change basic attitudes and curb excessive drinking.

Also at community level, Level II treatment is provided by trained local alcoholism counseling specialists through a variety of outpatient modalities including individual, group and family counseling. The target audience consists of individuals who meet the diagnosis of alcohol abuse; that is, they continue to abuse alcohol despite recurrent problems from it. The treatment goal is to prevent further alcohol related incidents through awareness of consequences and promotion of responsibility. Encouragement for abstinence from alcohol along with supportive involvement in Alcoholics Anonymous are the chief treatment objectives.

Level III care is provided through inpatient/residential treatment facilities in military hospitals or free-standing rehabilitation units. This setting is generally designed for individuals who cannot respond favorably to outpatient treatment or who require an intensive program. Historically, two prototypes for military residential treatment were the Navy's Alcoholism Rehabilitation Unit at the Long Beach Naval Hospital and the Air Force inpatient program at Wright Patterson Air Force Base. The Army's residential model is based on the Navy treatment programs. The Bethesda Naval Hospital's Tri-Service Alcoholism Recovery Department (TRISARD) became the first DoD program to pool efforts of the three military services and join resources and experience in alcoholism rehabilitation.

Currently, the Army operates/participates in interservice programs at Bethesda and Tripler AMC (TRISARF), and has established Track III programs at the following facilities: William Beaumont AMC, Dwight D. Eisenhower AMC, Stuttgart/Bad Cannstatt MEDDAC, Landstuhl MEDDAC, Nuernberg MEDDAC, Heidelberg MEDDAC, Frankfurt MEDDAC, Berlin MEDDAC, and Seoul, Korea. All military residential programs, at a minimum, feature group and individual counseling, education, and a prominent focus upon Alcoholics Anonymous. Navy/Army programs have included use of Antabuse and have provided an average 42-day length of treatment, while Air Force programs do not include Antabuse and have an average 28-day inpatient stay. Level III programs also include enrollment in a year-long aftercare program conducted by alcoholism counselors in the patient's home community. Continuing evaluation of the patient occurs during the aftercare year through feedback from job supervisors and commanders. During this period, reinstatement of security clearances and access privileges is also accomplished according to the patient's personal rate of recovery. Under current regulations, commanders can be the final authority for determining who is a "rehabilitation failure" and they can initiate discharges on alcoholics who relapse. In practice, service members who appear unmotivated or noncompliant are typically discharged when an alcohol related incident occurs following residential treatment. However, the capability for another inpatient "refresher" rehabilitation admission exists when supported by the commander.

## DETECTING DRINKING PROBLEMS

Alcohol problems are the most underdiagnosed of the potentially diagnosable problems encountered in clinical practice (Hingson et al., 1983; Stinson and Williams, 1987; Wallen, 1988). Despite their ubiquity, they are missed by skilled clinicians for a variety of reasons--the most prevalent being the failure to ask the right questions (Helzer and Pryzbeck, 1988; Kamerow et al., 1986), the tendency for the halo effect to obscure the early signs of drinking problems in high achievers, and the collection of faulty attributions about alcoholics which bias clinicians away from the diagnosis (Lisansky, 1974).

Clinicians fail to ask the right questions when they misinterpret the common correlates of drinking problems--anxiety and irritability, defensiveness and depressed mood--as the primary problems and assume that the associated heavy drinking is a secondary disorder resulting from excessive stress. Many alcoholics, eager to find explanations that prevent their identification with the negative label "alcoholic" and seeking to preserve the belief that they can control their drinking, welcome clinical reasoning that their drinking could become more "normal" if their problems went away (e.g., fewer job stressors, a more pleasant, less-nagging spouse) (Brown, 1985). It is not very difficult for an active alcoholic to manipulate the sympathy of an interviewer who believes that stress causes alcoholism by reciting a litany of sad stories of the "You'd drink too if..." theme. However, it has been demonstrated that an abnormal drinking history generally precedes the stressors which are claimed to be its source (Valliant, 1983). Clinicians are less likely to be "led down the path" by patients in strong denial of a drinking problem if they include an alcohol history within every evaluation. Efforts have been made to devise simple and reliable screening instruments for this purpose. These are intended to raise the clinician's index of suspicion that a primary drinking problem may exist. The most widely employed screening tools are the Michigan Alcoholism Screening Test (MAST) and four interview questions, the CAGE questions (Getka and Grodin, 1988). The MAST is a structured interview instrument that consists of 25 questions which sample information about the disruptive consequences of drinking, including the loss of control over consumption (Selzer 1971, 1975; Brady et al., 1982). Some of their MAST questions are sufficiently neutral that persons who are reluctant to self-identify as problem drinkers could still reveal a drinking problem, and the instrument was sensitive to those with drinking problems even when respondents were instructed to lie about the extent of their problem. The scoring system was formulated to minimize both false positives and false negatives. It has good selectivity as a screening device, although it may be less sensitive in relatively youthful populations who may not have yet developed the social, medical or legal sequelae to drinking that the interview samples (Selzer, 1971).

The CAGE clinical interview questions were expressly formulated for detecting alcoholism in a general hospital population (Ewing, 1984). CAGE is a mnemonic for the following questions:

- Have you ever felt you ought to cut down on your drinking?
- Have people annoyed you by criticizing your drinking?
- Have you ever felt bad or guilty about your drinking?
- Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover? (Eye-opener)

The CAGE questions can easily be incorporated in a patient history. With the exception of affirmation of ever feeling guilty about drinking (which occurred in 15% of a nonalcoholic sample), it is rare for non-problem drinkers to respond "yes" to these questions, but extremely common for those with problems to affirm them. The beauty of these questions is that they tap the full range of responses to an alcohol problem, including pathological use, social consequences, and withdrawal symptoms, without ever suggesting to the respondent that he label himself an alcoholic.

#### CLINICAL CRITERIA FOR THE DIAGNOSIS OF ALCOHOLISM

The term "alcoholism" is a convenient shorthand for describing a series of complex behavior disorders which emerge as a concomitant of excessive or inappropriate use of alcohol by persons of varying risk (Mendelson and Mello, 1985). However, the word has the same limited clinical value as the term "flu" when diagnostic reliability is at issue, especially if there is controversy around its definition. Recent research supports a multidimensional model for drinking problems with multifactorial etiology and considerable variety in both the expression and course of the disorder (NIAAA, 1987). Yet, the field has been characterized by the tendency of proponents to polarize around one or another rigid conceptual model (e.g., disease, social-learning). It is beyond the scope of this discussion to outline the sharp lines of conflict, but necessary to cite their existence in order that the reader can appreciate the need for objective diagnostic criteria when addressing alcohol problems. The reliability of making a diagnosis of alcoholism using the standardized criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III, American Psychiatric Association, 1980) has been quite good (Pattison and Kaufman, 1982; Cook et al., 1987). In May 1987 the APA Work Group to Revise DSM-III culminated its efforts in the publication of DSM-III(R). This revision incorporated a model of dependence proposed by an international panel through a World Health Organization Memorandum (Edwards et al., 1981) which puts alcoholism squarely in the focus of contemporary psychology: dependence is considered as a "psycho-physiological-social syndrome determined and kept going by a complex system of reinforcements." The cardinal feature is impaired control over substance use (Roundsaville et al., 1986).

In terms of the WHO dependence model, alcoholism is manifested by a change in behavioral patterns in which consumption of alcohol as a psychoactive drug is given a much higher priority than other behaviors that once had higher value. Dependence can exist in different degrees, and its intensity is inferred through maladaptive behaviors related to drug use and those secondary to its effects.

The WHO panel suggested some behavioral dimensions that might be useful for operational definitions of dependence:

- subjective awareness of compulsion to use a drug or drugs, especially during attempts to stop or moderate use
- a desire to stop use in the face of continued use
- narrowing of the individual's behavioral repertoire to a relatively stereotyped pattern of use
- evidence of the secondary physiological effects of chronic consumption, (i.e., tolerance and withdrawal symptoms termed neuroadaptation by the WHO panel)
- salience of drug-seeking behavior relative to other important priorities
- rapid reinstatement of the syndrome after a period of abstinence

The WHO panel avoided the suggestion that this constituted a definitive list because it recognized that intensive research is necessary to identify the significant dimensions and to validate their relative weights on dependence. The DSM-III(R) finally provides the structure for this research because it presents a standardized inventory modeled on the WHO criteria. By the DSM-III(R) classification, at least three of the following are required for a diagnosis of alcohol dependence (these have been reworded in alcohol-specific terms):

-Often drinks in larger amounts or for a longer period than originally intended. COMMENT: "Loss of Control" is central to the DSM-III(R) conceptualization of alcoholism. People who make rules or resolutions about their drinking habits and find themselves regularly breaking them have experienced this loss of control. Likewise, people who regularly consume considerably more than they intend or expect to drink, or during periods when they expect to remain sober, have lost control of their drinking. Unfortunately, loss of control has the extremely negative personal connotation of incompetency or helplessness for many alcoholics and they will resist such a direct interpretation of their behavior (referred to as alcoholic denial). A less threatening way to establish loss of control is to employ the relationship of prediction to control: the inability to consistently predict how much you will drink, or how long you will spend drinking, represents loss of control over your drinking behavior.

-Persistent desire to cut-down or limit drinking; or one or more unsuccessful efforts to reduce or control use. COMMENT: "Going on the wagon" has long been recognized as a sign of abnormal alcohol use. The need for restricted drinking seldom occurs to a person without alcohol-related problems; it just isn't necessary. Relapse to maladaptive drinking levels is even more rare for nonalcoholics. These phenomena were formerly covered under DSM-III as a "pattern of pathological use." DSM-III(R) broadens the criterion to include people who intend or desire to limit their drinking, even though they never follow-through on their plan. This focuses attention on the increasing priority of alcohol use as inferred through patient self-report.

-Significant time spent on activities necessary to obtain alcohol, drinking, or recovering from the effects of drinking. COMMENT: As consumption of alcohol gains in relative priority over other behaviors in a person's repertoire, changes in lifestyle are evident. Some alcoholics report that they think about drinking more often; some schedule their day around opportunities to drink. However, this is a relative criterion and the clinician should not expect that all alcohol-dependent persons consume ethanol daily.

-Frequent intoxication or withdrawal symptoms occur when expected to fulfill major role obligations or when drinking is physically hazardous (e.g., a person misses work because he is hung-over; attends work while intoxicated; drives drunk.) COMMENT: This criterion is shared with "Alcohol Abuse" under DSM-III(R). The increasing priority of alcohol consumption is demonstrated by its intrusion into inappropriate domains--the job setting or performance in hazardous situations whose psychological demands are incompatible with a sedated mental state.

-Important social, occupational, or recreational activities are given up or reduced because of drinking. COMMENT: The behavioral repertoire narrows as consumption (or the necessity to recover from intoxication) increases. The

focus is not on particular social or occupational consequences of drinking (which may or may not be reported) but on the relative priority of the drinking behavior itself. However, the person may express genuine guilt or remorse at those failures.

-Continued drinking despite knowledge of having persistent or recurrent alcohol related difficulties (e.g., use despite having an ulcer made worse by drinking). COMMENT: This aspect is also shared with Alcohol Abuse. It expresses maladaptive use of alcohol, viz. the fact that alcohol consumption is a high priority despite compelling reasons why it should not remain so for the person. Diagnosis on this criterion does require the individual's awareness of the relationship between the social, psychological, or physical problems and the use of alcohol. However, loss of control is not necessarily at issue.

-Tolerance is present (i.e., the need for at least a 50% increase in the amount consumed to achieve intoxication, or markedly diminished effects with continued use of the same amount). COMMENT: Alterations in the standard alcohol dose/response curve are secondary consequences of high-priority alcohol consumption. The focus on clinical inquiry should be to ascertain whether the individual's efforts to obtain or maintain a particular psychological state have required progressively larger amounts of the substance (which describes the increasing priority of consumption behavior).

-Characteristic withdrawal symptoms occur within a few hours after cessation of a heavy period of drinking (e.g., several days), to include coarse tremor of hands, tongue or eyelids, and related symptoms of sympathetic arousal (e.g., nausea, malaise, anxiety, insomnia, etc.). COMMENT: Withdrawal is, like tolerance, a neuroadaptive consequence of high-priority alcohol consumption. Many heavy drinkers have adjusted their consumption to avoid these consequences.

-The individual drinks to relieve or avoid withdrawal symptoms. COMMENT: Maintenance drinking to postpone withdrawal symptoms reflects a severe commitment to alcohol consumption which can have life-threatening consequences. Morning drinking to relieve a hangover or "steady the nerves" is symptomatic of maintenance drinking behavior.

The DSM-III(R) criteria are evidently intercorrelated, but there has not been any systematic research about the overlap between criteria (such as the relationship between significant time spent drinking or recovering from drinking, frequent intoxication or withdrawal when expected to perform major role functions, and reduction or elimination of important social, occupational or recreational activities because of drinking). Obviously, criterion overlap would make it easier to meet the minimum three item diagnostic cutoff, which may result in a lack of specificity of this classification system. This could result in the inclusion of many more patients heretofore classified alcohol abusers under DSM-III. This prospect holds some concern among the managers of alcoholism rehabilitation programs since admission criteria were formerly matched to the severity of the problem as classified by diagnosis of either dependence (inpatient/residential) or abuse (outpatient) (DoD, 1985). The search for weights among the various criteria which would address a comparable sense of problem severity has just begun. At the Tri-Service Alcoholism Recovery Department (TRISARD) in Bethesda MD, contrasts are being made between known populations of inpatients and outpatients to discover which factors best



discriminate these populations. Based upon a pilot study of 49 patients in the TRISARD and 43 clients in the Outpatient Counseling program of Walter Reed Army Medical Center, three clusters of MAST items were identified that could correctly classify 87% of the cases. These were loss of control, experience of significant legal consequences to drinking, and report of alcohol detoxification in a medical setting. Additional work is ongoing using an adaptation of the Alcohol Use Questionnaire (Horn et al., 1984) to define differences on specific DSM-III(R) criteria.

There are several possible approaches to triage of persons with alcohol problems based upon these new DSM-III(R) criteria. Despite the limited investigation of clinical weights, one may apply clinical judgement to scale problem severity (mild, moderate and severe) based upon the DSM-III(R) suggestion that severity is defined by the accumulation of symptoms beyond the minimum number of diagnostic criteria (three). Another approach favors the "step treatment" model, which was originally planned into the tri-level military rehabilitation model. This approach, similar in design to the treatment strategy for chronic disorders like hypertension, selects treatment from a hierarchy of interventions and applies the most conservative treatment first, with additional intervention contingent upon the results. In the case of hypertension, the initial intervention may be nonpharmacologic (i.e., salt restricted diet). Prescription of diuretics follows as the next stage of intervention, then beta blockers, etc. Similarly, the initial alcohol-related incident might be responded to with education/safety awareness (Level I). A recurrence would be followed with outpatient counseling (Level II). Admissions to residential treatment would then be recommended only upon failure of the outpatient intervention. In situations where the risks may outweigh this approach--such as the disciplinary consequences of another alcohol-related incident upon a person's career status--one might consider admitting patients to residential care based upon profile similarity with a known inpatient sample (the TRISARD investigative effort). If this strategy is selected, it is currently recommended that the triage rules consider the synergistic effect of loss/efforts to control and other significant legal/medical consequences as the cardinal determinants of problem severity. Given the limited capacity of existing residential treatment units and the demise of existing admissions criteria, this entire area merits extensive research.

## CONCLUSIONS

Army psychologists have a virtually untapped opportunity to apply their clinical skills to a sizable segment of beneficiaries in the military health care system. It is significant that the current DoD Instruction which provides guidance for the rehabilitation and referral services for alcohol and drug abusers, DODINST 1010.6, specifically names only two categories of qualified medical personnel who can make the diagnosis of alcohol dependence--licensed physicians and psychologists--and further requires psychological evaluation as part of the intake process. Moreover, the current DSM-III(R) model for alcoholism is explicitly formulated on behavioral principles, explaining etiology in terms of operant conditioning and the physiological and environmental reinforcement processes that influence the development and maintenance of addictive behavior (Roundsaville et al., 1986). The preconditions to capture this opportunity are a willingness to ask the right clinical questions and to learn the DSM-III(R) criteria. There appear to be no shortages of patients to diagnose.

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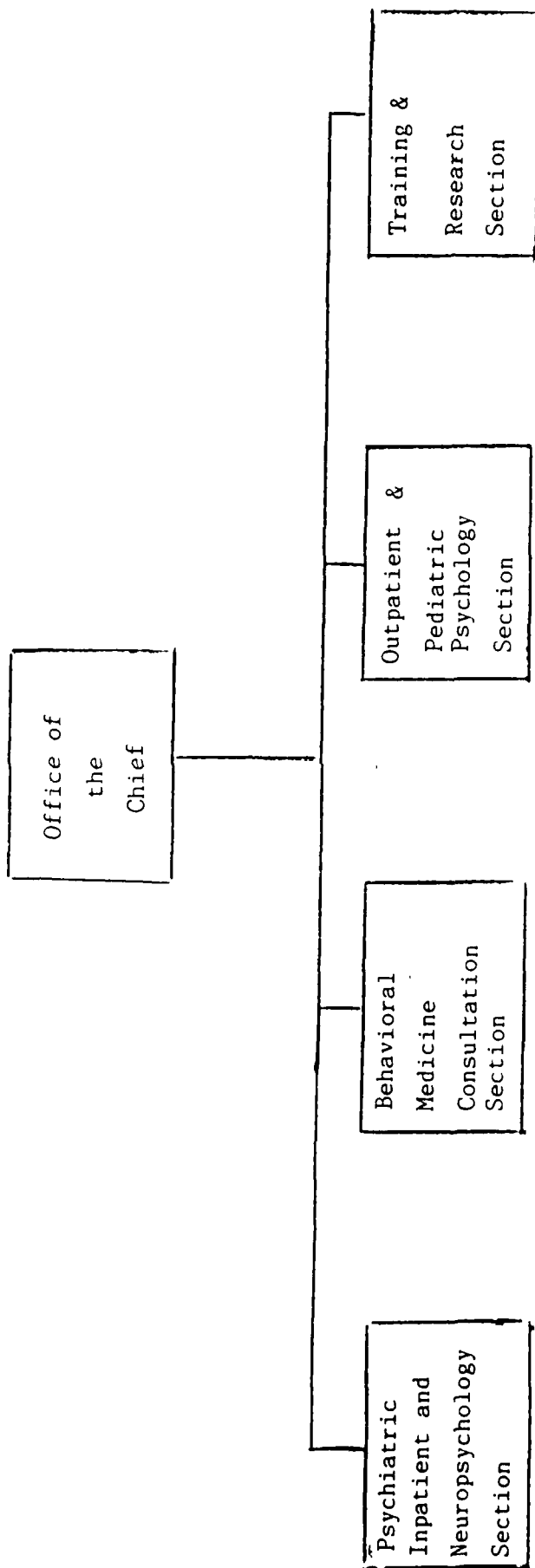
PLANNING FACTORS FOR  
IMPLEMENTING AN ADMINISTRATIVELY SEPARATE PSYCHOLOGY SERVICE

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Key Factors in planning for establishing an administratively separate psychology service are

- (1) awareness of whose direction and support for a separate service initiated the action.
- (2) careful analysis of the directive initiating planning; (e.g., breadth and scope intended, any models recommended, specific goals stated or implied).
- (3) maintenance of current clinical service and training program support where appropriate.
- (4) expectation of relook at budgetary issues and administrative support requirements.
- (5) identification of new supervisory chain and addressing concerns on credentials/privileges and quality assurance.
- (6) keep plan in balance with anticipated resources.
- (7) evaluation plan to rely on currently available data systems.

PSYCHOLOGY SERVICE



## PSYCHOLOGICAL AUTOPSIES: MAKING SENSE OF THE SENSELESS

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Department of the Army now requires psychological autopsies be provided by a mental health officer on all Army active duty members suspected or confirmed suicides or equivocal deaths. There is little published information regarding these increasingly important reports. This paper draws upon (a) the author's personal experience in conducting five psychological autopsies, (b) available journal articles, and (c) information found in the mass media. It provides a review of the nature, purpose, process and the important suicide preventive role of these reports. Information on the classification of suicide and suicide intent is provided. Issues relevant to the various steps involved in conducting psychological autopsies are presented. This paper is intended to enable the reader to obtain an initial exposure to psychological autopsies and to facilitate the capability to effectively conduct and write a psychological autopsy in order to meet Command and Army Community needs in this area.

Several factors have combined to make psychological autopsies an item of growing importance in the Army. The army-wide focus on suicide prevention (DA Pam 600-70), the emphasis of caring leadership as a critical part of this effort, the need of command to have as complete an understanding as possible of these tragic events, the inherent capacity for psychological autopsies to uniquely address the above issues, and the DA requirement for these reports all combine to make a significant reading audience. My first psychological autopsy, completed in August 1985, was read by only a few individuals. This was due in part to the personal nature of these reports and the subsequent need to limit their circulation. Readers of the first report included the Division CG, the Chief of Staff, the Division Surgeon and mental health officers. In contracts, a psychological autopsy completed in October 1986 was read by all three Division Command Generals, Chief of Staff, all members of our Division Stress Management Council including chiefs of most Division Staff sections, all unit level commanders in the deceased's chain of command and select Division and Tripler medical and mental health officers. Copies were attached to the LOD report and CID report and sent to prescribed offices at MACOM and three separate DA departments. Inasmuch as the importance of these reports has grown, it behooves all psychologists as potential suicide investigators to learn the process of conducting a psychological autopsy and when required to expeditiously complete this task in the highest quality manner.

The new directive from DA (AR 600-63, AR 195-2) requires that the psychological autopsy be conducted by a mental health officer. Writing psychological reports is a routine task for psychologists. Doctorate granting programs in clinical psychology provide considerable training in writing psychological reports based on interview and psychodiagnostic testing. Due to this extensive experience base, psychologists are in an advantageous position to provide quality psychological autopsies. However, no classes or specialized training exist pertaining to the process of conducting a psychological autopsy. The task may now be thrust upon an "unsuspecting" psychologist who may suddenly find himself in the position of receiving a 10-day post-suicide suspense date

to have a completed psychological autopsy for the Commanding General. This task will almost certainly come as an addition to an already busy daily schedule. This paper is provided to help others avoid my real life experience with the above scenario.

### PSYCHOLOGICAL AUTOPSIES DEFINED

The words "psychological autopsy" tell us that the procedure has to do with clarifying the nature of a death, and that it focuses on the psychological aspect of the death. The psychological autopsy is a reconstruction of the motivations, philosophy, psychodynamics and existential crises of the decedent (Shneidman, 1981). Psychological autopsies have traditionally been used to clarify the mode of death in equivocal cases (deaths due to either "suicide," "accident," "homicide," or "natural"). It requires a painstaking evaluative judgement of the deceased's intention (Litman, Curphey, Shneidman, Farberow, Tabachnick, 1963). The procedure requires talking to key persons--spouse, parent, friends, physician, work associates and others who knew the deceased--in an attempt to reconstruct the individual's life style, personal problems, personality, and attitude about his own death (DA Pam 600-XX, Psychological Autopsy).

### PURPOSES OF PSYCHOLOGICAL AUTOPSIES

Department of the Army policy requires a more broadened concept of psychological autopsies. The purpose of these reports includes yet goes beyond simply clarifying mode of death. These reports provide a rich data base for the continuing study of suicide as experienced in the U.S. Army. If U.S. Army leaders, mental health professionals and other helping systems within the Army are to be successful in preventing suicides we must more fully understand why soldiers terminate their lives. This must be an on-going effort.

In most cases much information regarding a suicide can be determined easily. Often we can quickly know where a suicide occurred, when the suicide act took place, how the death happened, and we can rapidly discover identifying information such as sex, marital status, race, age, rank, past schooling, awards, etc. Yet the most difficult question is why this individual took his life and why at that particular time. Psychological autopsies hold the most promise for answering these difficult questions. The answers to these questions hold the most promise for discovering possible future suicide preventive actions. They have value as an organizational tool, as a means of surfacing problems in the Army system at both local and general levels. However, it is important that the reports not be used to assign blame but rather illuminate lessons learned.

The investigative nature of psychological autopsies provides a natural means of establishing contact with individuals in the victims life cycle who may be experiencing considerable emotional difficulty over the death event. This so called "postvention" serves as a nonobtrusive therapeutic vehicle for these individuals. It is also a means of preventing additional suicides. The process serves as an obstruction to suicide contagion through identification and assistance offered to those most disturbed by the suicide and potentially at risk for suicide.

## THE CLASSIFICATION OF SUICIDE AND SUICIDAL INTENT

A paper on the Operational Criteria for Classification of Suicide (OCCS) was presented at the Suicidology Convention in April, 1986, at Atlanta. This significant contribution to the study of suicide serves to provide a standard definition of suicide. Initially, a judgement of whether a suicide has occurred would appear to be clear-cut. Yet closer consideration of acts which result in death and a consideration of the complexity of human behaviors reveal the potential difficulty of accurately attaching a label such as suicide or accident. The OCCS cites two elements which are essential for a determination of suicide: (1) self-inflicted and (2) intent. It is important to recognize that intent is variable. The ambivalence which commonly attends suicidal acts can produce a wide range in degree of intention.

The new DA pamphlet on psychological autopsies (DA Pam 600-XX) describes several classifications of suicidal intention. They are (a) first-degree suicide: deliberate, planned; (b) second-degree suicide: impulsive, under great provocation; (c) third-degree suicide: relatively harmless self-injury resulting in death ("unlucky" death). Self-inflicted deaths due to psychosis or high intoxication are typically not classified as suicides due to difficulty in assessing intention. Subintentional death pertains to an individual playing a covert or unconscious role in their death, for example, excessive risk-taking (Shneidman, 1968).

Intent may be further evaluated by assessing lethality. Utilization of the Lethality of Suicide Behavior Rating Scale requires judging whether the behavior is high, medium, low or absent of lethality. The scale utilizes numbers 0-8 with descriptor statements which characterize the suicidal act. Shneidman (1968) advocates the use of this classification of intention as meeting the long overdue need to introduce the psychodynamics of death into the death certificate.

Despite the significant value of using criteria to obtain greater accuracy in reporting suicides it has been this investigator's experience that suicidal behaviors can defy being neatly placed within the above stated boundaries. This experience is also endorsed by Litman (1968).

## PSYCHOLOGICAL AUTOPSY PROCEDURES

Conducting a quality psychological autopsy requires several steps. The ultimate quality and accuracy of the report is more dependent upon the first and second steps than any other. Collecting written data is the first significant step. Fortunately, the military system provides considerable written information on all service members. It has been this author's experience that access to all records is readily granted. However, to facilitate this an initial meeting may be called in which key representatives of various departments may be oriented to the death incident. Additionally, the task of conducting a psychological autopsy may be explained to this group. For a suicide within a Division, the G-1, Division Surgeon, deceased's Chain of Command, CID representative, LOD Investigator and others as needed should be initially briefed and cooperation obtained. The result is the ready availability of personnel records, medical records, access to work associates, CID reports, deceased's personal effects to possibly include suicide note, physical autopsy results, etc. The second step is the process of interviewing



family, friends, work associates, and other key people in the life of the deceased. Rudestam (1979) emphasized the need for special training for interviewers. Most clinical psychologists have sufficient training and psychological mindedness to establish rapport and exhibit empathy yet complete the task of obtaining pertinent information and help the interviewee deal with the suicide incident. Nevertheless, the skills needed to accomplish this task are developed and enhanced by experience.

The next step is data analysis and write-up. This involves selecting significant information from all sources and organizing it by category. Many areas of investigation are recommended by the new DA Pam on Suicide Prevention and Psychological autopsies (DA Pam 600-XX). The resulting categories may vary depending upon the significance of the information as it pertains to the deceased. However, the following areas are offered as core categories for the actual report: Investigation Sources, Identifying Information, Circumstances of Death, Family Background, Personality and Lifestyle, Relevant Personal Information, Primary Problem Area, Personal References to Suicide Issues and Summary/Recommendations. An appropriate category to place the suicide intent classification and the Lethality Scale number is the summary section. Writing the report in a thorough, logical and easily readable manner is important given the potential reading audience.

The fourth step involves typing and disseminating the report to all appropriate individuals and departments. Briefing the Chain of Command, Chief of Staff and others as appropriate is recommended. This latter step takes added significance if actions have been recommended. These reports also provide excellent source material for in-service classes within mental health agencies on the topic of suicide. There is a natural interest in "real life, here and now" suicides amongst those who work to prevent suicides.

Conducting "postvention" activities occurs throughout this process. It includes therapeutic interactions with those most affected and taking appropriate actions. It provides an opportunity for suicide survivors to process their anger, guilt, and anguish. Suicidal contagion is a phenomenon which has been well documented (Wasserman, 1984; Bollen & Phillips, 1982). "Postvention" serves to counter this phenomenon. It allows units and families to recover from the impact of "one of their own" committing suicide.

## PSYCHOLOGICAL AUTOPSIES AND THE MASS MEDIA

Two cases have emerged in the public eye which have drawn mass media attention to psychological autopsies. In the December 1986 issue of Psychology Today, an article by Dr. Raymond Fowler, was presented on the psychological autopsy of Howard Hughes. Attorneys in that case felt it was important to know what Hughes' mental status was at various periods of his life. Dr. Fowler talked to everyone he could over a period of several years and compiled more than 50,000 documents on Howard Hughes. He termed his conclusions "highly educated guesses about his mental condition."

In the December 13th issue of the Honolulu Advertiser a headline read, "Psychological Autopsies Play Key Role in Court" (Bass, Note 1). The case pertained to the suicide of a 17 year old girl in Florida. A Boston psychiatrist, Dr. Douglas Jacobs, testified that her mother was responsible because she forced her daughter to dance nude in strip joints until out of rage

and humiliation she was driven to kill herself. Dr. Jacobs' conclusions were based upon his psychological autopsy of the suicide. He was criticized by mental health professionals for going beyond the techniques scientific capability to determine psychological causes of death. He also failed to interview anyone, relying only on depositions, school, hospital and employment records. This court case poses several questions regarding psychological autopsies. When does speculation end and our ability to understand the true causes of suicide begin? What constitutes sufficient thoroughness? Is interviewing family, friends and others necessary to reach conclusions? What limitations can be placed on professional arrogance which may lead to unjustified conclusions?

Despite these questions psychological autopsies meet many needs. Litman (1984) gave several case examples of psychological autopsies used in court. They are being used to settle estate questions, workers' compensation claims, malpractice suits, criminal cases in defense of battered women who killed their husbands and now by the prosecution in a criminal case. It appears they are here to stay. Though there is a potential for misuse, these reports represent a prime method of assessing motivations for a select but tragic human experience. It is my position that they have a valid place in our justice system and an important place within the Army system--if they are done in a thorough and accurate manner.

#### PREVENTIVE ASPECTS

Psychological autopsies serve a primary, secondary, and tertiary prevention role. Primary prevention, reducing factors which increase stress, may be a natural outcome of psychological autopsies as problems are identified and command directs that ameliorative steps be taken. My third psychological autopsy was done on a foreign-born wife. The report ended with a statement of "need for continuing overall Army and Schofield Barracks efforts to assist foreign-born wives." This statement was underlined by the CG. The Chief of Staff directed that a needs assessment of foreign-born wives occur. This effort then led to multiple steps to assist foreign-born wives, to include development of ethnic specific wives groups, multiple command briefings, organization of a foreign-born wives committee to address their needs and various other related steps. This illustrates the potential for command to enact initiatives which focus fundamentally upon stress reduction. Secondary prevention, prompt treatment to minimize morbidity, is accomplished through "postvention" efforts wherein individuals at risk are identified and assistance provided. Tertiary prevention, prevention of contagion, occurs as issues relating to the suicide are satisfactorily put to rest and the unit, friends, family and community continue to function.

#### SUMMARY

A successful U.S. Army suicide prevention program must be multifaceted and wide ranging. Initiatives must be endorsed by leaders, supervisors, and the support systems at all Command levels. The completion of quality psychological autopsies plays an essential part in the Army-wide effort to prevent suicides. These reports produce a higher degree of accuracy in death reporting procedures. They objectify the assessment of whether a suicide occurred and the degree of intention present. They provide a rich data base to learn more

about suicide, and they serve as potential instructional tools to teach others about suicide. In this manner and in other ways psychological autopsies provide information which has implications for suicide prevention. Importantly, they enable affected individuals to be assisted.

Those who endorse a view of the inherent value of life see suicide as a senseless waste of human potential. Often the act of suicide presents as meaningless. At funeral services Chaplains or other church leaders struggle to impose meaning for "suicide survivors." Psychological autopsies can bring a degree of understanding to the act of suicide. This does not by any means justify suicide, yet it helps to place it in a sensible context. For this reason and all others identified above, psychological autopsies deserve our best efforts as military psychologists.

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## THE PSYCHOLOGIST IN THE COURTROOM: PROFESSIONAL AND PERSONAL ISSUES

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Psychologists both in and out of the military are increasingly being called upon to play an expert role in criminal justice proceedings. Issues with which psychologists are seen as having expertise are as diverse as the sanity defense, competency to stand trial, the role of psychological assessment in expert testimony, and issues of legal custody as well as physical and sexual abuse. And in this ever more litigious society, the future would seem to hold even more challenging roles and responsibilities for psychologists in the courtroom. In addition to touching on these issues, the author discusses his role in a murder trial which took place in late 1987, during which time the insanity defense was raised and vigorously debated by both prosecution and defense experts, and one psychiatrist was suspected of perjuring himself during his expert testimony. Implications for us as clinical psychologists in general, as well as military clinical psychologists in particular are presented as well.

In 1908 Munsterberg, in a series of essays on the memory of witnesses, untrue confessions, and hypnosis and crime ushered in a somewhat premature era of the involvement of psychology in forensic matters. A controversial idea for its time, to say the least, the issue basically became submerged until it was resurrected in the late 1950s, when some psychologists began becoming qualified as experts. Psychologists are today becoming increasingly involved as expert witnesses or otherwise offering assistance to the courts on various legal matters. The judicial system now asks the aid of psychologists in helping determine dispositions in matters of insanity defense, competency to stand trial, legal custody, and physical and sexual abuse. Not infrequently, psychological testing plays a key role in the overall assessment offered to the court. Military psychologists, too, are responding to these forensic needs and are, in turn, facing issues that are often specific to the military environment.

Blau (1984) talked of the initial role of the forensic psychologist as generator of a "needs-assessment... a formal or informal process whereby the psychologist determines the gap between currently available information and the information that will be necessary before an expert opinion on the matter at hand can be rendered." Once a needs-assessment has been performed, the psychologist must generate appropriate strategies for completion of the assessment. Finally, formulation of the assessment results must be performed, keeping in mind the very specialized target audience.

At this point, brief examination of the psychologist's role in each of the above-mentioned forensic areas is appropriate. Much of the material is derived from Blau (1984) and Ziskin (1981a & b).

## PSYCHOLOGICAL TESTING

If not the most important, certainly the most well-known role of the clinical psychologist among the lay, as well as the legal community, is that of administrator/interpreter of psychological tests. The crucial question is the degree to which psychological tests are appropriate sources of information in forensic cases, and if so, which ones, has been extensively addressed.

Ziskin (1981b) points out that psychological assessment generally is problematic from the standpoint of legal evidence, because of deficiencies which "lie in the lack of a unified theory of human behavior, negative or insufficient research on reliability and validity in psychodiagnosis, ... problems related to situational effects, examiner effects and biases" and other variables which have always troubled practitioners of psychometrics. However, Ziskin adds, "the MMPI has qualities which appear to make it superior to nearly all other assessment methods or instruments for use in the forensic setting." The MMPI especially meets forensic needs when used to evaluate the credibility of a litigant, to assess present psychopathology in connection with legal issues, and to aid in child custody and civil commitment matters. Some appropriate caveats do apply, however:

1. Be aware of the formed population and the concomitant difficulties with generalizing to samples from non-formed (minority) populations.
2. Note situational variables which could impact on testing (threat of incarceration, etc.).
3. Be aware that responses to individual items may fly in the face of both clinical scale elevations and one's interpretations.
4. Be wary of mislabeling psychodiagnostically on the basis of an individual profile.

Ziskin (1981a) (who is a psychologist as well as an attorney) finds few other psychodiagnostic assessment instruments useful in the forensic setting, and he saves much of his criticism for the projective techniques. With respect to the Rorschach, for example, he maintains that Anastasi's (1961) statement still holds: "... the vast majority of interpretive relationships that form the basis of Rorschach scoring have never been empirically validated." Ziskin appears to respect the thrust of Exner's (1974) research, but observes Exner's constant modifications with some skepticism, noting that..." the Exner system is still in an evolutionary stage and a stage too early for giving credence to conclusions based on it in legal matters." Swartz (1978) reminds us that the TAT is still being published with the original manual, which provided no reliability or validity data. Additionally, there is virtually no standardized administration, scoring or interpretation of the TAT; most psychologists are out "doing their own thing," a method hardly conducive to helping jurors arrive at a place "beyond reasonable doubt." Drawings and other tests get even lower marks. Thus it appears that tests, when used in forensic assessment especially, must be selected and utilized with the utmost care, attention and skill.

## COMPETENCY TO STAND TRIAL

Perhaps more important than what competency is, is what it is not; that is, it is not the same as sanity in the legal sense. To evaluate competency, one must address the issues of whether "the defendant is capable of

understanding and perceiving the nature of the judicial process to a reasonable degree" (Blau, 1984). While the competency assessment issue has always been rather unstructured, usually emanating from a combination clinical interview/mental status evaluation, there is movement in the direction of more structured types of competency assessments. Lipsitt, et al. (1971) developed the Competency Screening Test (CST), a 22-item set of stems dealing directly with issues related to the trial setting. The test was found to discriminate among a set of 43 defendants who had been committed for competency evaluation, and has been cross-validated with some success. The CST can be used to support other pertinent data obtained during the clinical interview. Additionally, valuable information can be gleaned from intellectual, neuropsychological as well as personality assessment instruments.

## THE INSANITY DEFENSE

The modern origin of the insanity defense dates to 1843, the year of the M'Naghten case. Daniel M'Naghten killed the secretary to the English prime minister while attempting to kill the prime minister himself. The jury became convinced that the accused was not guilty by reason of insanity, a philosophy which was later designated the M'Naghten Rule, or the "all-or-none" rule. The rule states that

...it must be clearly proved that at the time of the committing of the act, the party accused was laboring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing; or if he did know it, that he did not know what he was doing was wrong.

In 1961, a new definition of insanity was adopted by the American Law Institute (ALI):

A person is not responsible for criminal conduct if at the time of such conduct as a result of mental disease or defect he lacks substantial capacity either to appreciate the criminality of his conduct or to conform his conduct to the requirements of the law.

In 1986 ALI dropped the second condition (the so-called "volitional prong") from its definition, maintaining the first condition ("cognitive prong") as both necessary and sufficient. Approximately 22 states still use the M'Naghten rule, 26 use ALI and two have eliminated the defense altogether.

Blau (1984) characterizes the role of the expert witness in an insanity plea situation as providing the judge and jury with "information and opinions that the average jury member could not deduce from the evidence." In pursuit of such information, the psychologist will collect data concerning events surrounding and observations of the crime, the defendant's ability to recall events, and ancillary data such as those related to the victim and to events previous and subsequent to the crime. In addition, the psychologist should perform a psychological evaluation which includes sections described earlier, with additional attention paid to measures of faking or malingering. Two separate defendant histories are useful, one from the defendant's family, and one from the defendant himself. The result should be an opinion that the patient either did or did not, at the time of the crime, have mens rea, meaning awareness or cognition that the act was illegal. According to Blau,

three types of diseases or defects are seen as affecting mens rea: mental deficiency (severe or profound), neuropsychological dysfunction or defect, and emotional disturbance.

#### DOMESTIC ISSUES

Psychologists have been asked to give opinions on the full range of domestic problems, including physical and sexual abuse of children and spouses, fitness as a parent, visitation, etc. In addition to psychologically evaluating the child and the parents, the psychologist should address the actual child-rearing settings and the implications of raising a child in such settings, either directly or with the aid of ancillary personnel (public health nurse, caseworker, etc.).

It is important not to minimize the social-psychological impact of the judge's sense of his own role. That is, although the court may solicit expert psychological opinion, it maintains ultimate power and in the end, will base its opinions on any number of disparate variables. For example, in a survey of judges which measured the factors they considered in awarding child custody, the "advice" of professionals was ranked 12th of 20 variables. What was seen as important was the judge's sense of parents' mental stability, parents' sense of responsibility towards the child, moral character, and parents' affection towards the child (which was ranked sixth).

#### THE ROLE OF THE MILITARY PSYCHOLOGIST

Never, it would seem, is a psychologist's sense of ethical conflict more tested than when ordered to violate confidentiality by a court. In the military, of course, it is taken for granted, right from the start, that "need to know" will often mitigate against maintaining confidentiality. Recently, the author was called to testify against a patient he had been treating at the prison at Fort Leavenworth. The patient had been convicted of murder and had spent three years at the prison. Subsequently, the patient was ordered to be retried on a technicality, and his psychologist was ordered to divulge everything that he and his patient had discussed concerning his crime. Confidentiality, of course, is not to be an issue for a military psychologist, say the military courts.

A major role in which the military psychologist is increasingly finding himself involved is that of legal ombudsman. That is, prosecution and defense attorneys both inquire of psychologists as to the relative merits of incarceration vs. family treatment in child sexual abuse cases. An excellent source of data from which recommendations on individual cases have been drawn has been the research files of the Directorate of Mental Health, U.S. Disciplinary Barracks, Ft. Leavenworth. Studies there of the MMPI profiles of various military offenders (Paris and Brown, 1985; Paris, 1986a,b) as well as analyses utilizing other personality measures have advanced the child sex offender literature while aiding both clinicians and attorneys in making important decisions involving the prosecution of military personnel. Undoubtedly, the forensic role of the psychologist in general, as well as the military psychologist in particular, will continue to expand as the criminal justice system continues to see us as sources of much-needed information.

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## COMPONENTS OF A FORENSIC PSYCHOLOGICAL REPORT

- a. The process by which the psychologist was retained.
- b. The facts of the case and their source.
- c. The defendant's recollection of events surrounding the crime.
- d. Observations of the defendant's behavior by friends, relatives, witnesses, and enforcement personnel.
- e. Family history and events of significance in the defendant's life.
- f. Tests and procedures used. Dates and times spent with the defendant.
- g. Clinical observations during testing. A statement as to competence at this time is appropriate here.
- h. Test results.
- i. A summary statement of the defendant's psychological state at the time of the examination, including any diagnosis or categorization of this state which may be appropriate. Comments concerning the validity of the procedures and/or indications that the defendant attempted to fake bad responses should appear here.
- j. An evaluation of the degree of "fit" or absence of such concordance of the facts of the case with the history, observations of behavior, and the defendant's psychological state and recollections.
- k. A statement of the psychologist's opinion as to effect on the defendant's mens rea of any mental defect or disease and whether the events described in the facts of the case suggest, within reasonable psychological probability, that the defendant was unable to understand that the acts he or she committed were unlawful or wrong. If there is reasonable evidence to support an opinion that the defendant may be capable of understanding that the act was wrong but, because of a defect or disease influencing the defendant at the time of the crime, was unable to conform his or her behavior to those standards, it should appear as an opinion. This is best done in the written report, as answers to a series of questions posed by the retaining attorney.

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Taken from Blau (1984). The Psychologist as Expert Witness. New York: Wiley.

### INFORMATION CRUCIAL TO COMPETENCY EVALUATION

1. The defendant's perception of why he or she is in the adjudication situation.
2. The defendant's opinion of his or her attorney and what they will be doing together.
3. The role of judge and jury in the anticipated court proceedings.
4. The defendant's understanding of the concept of "plea bargaining."
5. The defendant's awareness of the consequences should a verdict of "guilty" be rendered by the judge or the jury.
6. The defendant's status and adjustment to jail if he or she is not out on bond.
7. The defendant's perception of his or her probable response to a prison term should this be an outcome of the court proceedings.

### RECOMMENDED GUIDELINES FOR WRITING EVALUATION REPORTS

1. Focus: The introduction, procedures, and conclusions of the report must focus on the issues of the case.
2. Clarity: Jargon, obscure terms, and erudition should be avoided.
3. Validity: The psychologist must put nothing in a forensic report that cannot be substantiated and supported in a relatively objective way.
4. Opinion: The forensic report must conclude with an opinion or opinions based on the information in the report and be responsive to the hypothetical questions posed at the beginning of the case by the attorney retaining the psychologist.

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Taken from Blau (1984). The Psychologist as Expert Witness. New York: Wiley.

## FORENSIC PSYCHOLOGICAL EVALUATION: STRATEGY GUIDELINES

1. Are the strategies available? In a jury evaluation project the psychologist may recommend a sophisticated procedure, such as a base-rate demographic study of the voters' registration list in a community; however, if the local laws forbid using that list, the strategy may not be used.
2. Are the strategies ethical? The psychologist must be sure that any procedure, test, evaluation, or assessment done is well within the APA code of ethics and the APA standards for the delivery of psychological services.
3. Are the strategies professionally acceptable? Anything that the psychologist chooses to do in order to come to an opinion will be reviewed and possibly challenged during a deposition or at the trial. All procedures should be such that they have general acceptance in the profession and represent acceptable practice and procedures.
4. Are the strategies practical? Such factors as cost, personal agreeability to all parties, and time constraints must be taken into consideration. In some cases the psychologist may feel that certain procedures are vital to support an expert opinion, whereas the attorney or the attorney's clients may see them as unacceptable. In such cases the psychologist should ordinarily withdraw from the case. An example of this would be when a psychologist is asked to render an expert opinion on prison conditions and the attorneys for the state are unwilling to agree to a series of on-site visits and interviews with dissident inmates.

## PSYCHOLOGIST ROLES IN FAMILY COURT MATTERS

1. Psychological status and needs of a child and the best interests of a child.
2. Fitness of the mother as sole parent.
3. Fitness of the father as sole parent.
4. Parents' potential as joint custodians.
5. Significance of grandparents in the child's life.
6. Change of custody petitions.
7. Current scientific thought on issues of child development and family dynamics.
8. Visitation plans.
9. The child's potential for dangerousness to self and others.
10. Potential of parents as abusers.
11. Issues of mental status at time of property agreement.

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From Blau (1984). The psychologist as expert witness. New York: Wiley.

### THE COMPETENCY SCREENING TEST

1. The lawyer told Bill that \_\_\_\_\_
  2. When I go to court, the lawyer will \_\_\_\_\_
  3. Jack felt that the judge \_\_\_\_\_
  4. When Phil was accused of the crime, he \_\_\_\_\_
  5. When I prepare to go to court with my lawyer \_\_\_\_\_
  6. If the jury finds me guilty I \_\_\_\_\_
  7. The way a court trial is decided is \_\_\_\_\_
  8. When the evidence in George's case was presented to the jury \_\_\_\_\_
  9. When the lawyer questioned his client in court, the client said \_\_\_\_\_
  10. If Jack had to try his own case, he \_\_\_\_\_
  11. Each time the D.A. asked me a question, I \_\_\_\_\_
  12. While listening to the witnesses testify against me, I \_\_\_\_\_
  13. When the witness testifying against Harry gave incorrect evidence, he \_\_\_\_\_
  14. When Bob disagreed with his lawyer on his defense, he \_\_\_\_\_
  15. When I was formally accused of the crime I thought to myself \_\_\_\_\_
  16. If Ed's lawyer suggests that he plead guilty, he \_\_\_\_\_
  17. What concerns Fred most about his lawyer \_\_\_\_\_
  18. When they say a man is innocent until proven guilty \_\_\_\_\_
  19. When I think of being sent to prison, I \_\_\_\_\_
  20. When Phil thinks of what he is accused of, he \_\_\_\_\_
  21. When the jury hears my case, they will \_\_\_\_\_
  22. If I had a chance to speak to the judge, I \_\_\_\_\_
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From Lipsitt, D. & Lelos, D. (1970). Competency Screening Test. Boston: Competency to stand trial and mental illness project.

HISTORICAL OVERVIEW OF THE  
ARMY EXCEPTIONAL FAMILY MEMBER PROGRAM

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Military dependent children with handicapping conditions who lived outside the United States had been deprived of legally mandated medical services. Such deprivation is defined as discrimination under the law. Both by statute and by court ruling, it is the direct responsibility of the Department of Defense (DOD) to provide medical services to handicapped military children overseas.

In 1975, Congress passed the Education of Handicapped Act, Public Law (P.L.) 94-142, which mandated that the benefits of education be provided to all children, regardless of possible handicapping conditions. Additionally the law required that related services, (i.e., medically related services such as audiology, speech pathology, occupational and physical therapy, and psychology) be made available. The DOD Dependent School (DODDS) system's interpretation of P.L. 94-142 was that jurisdiction did not apply to schools in foreign countries. In order to clarify this situation, Congress in early 1978 passed P.L. 95-561. Section 1409(c) of this law specified that P.L. 94-142 shall apply to DODDS.

In late 1978, however, the General Accounting Office (GAO), which is the investigative arm of Congress, evaluated the services offered to handicapped children overseas. The GAO study found only minimal and limited services for handicapped children. The availability of these services was further compromised by transportation problems over long distances and by long waiting lists. Additionally, the GAO report criticized the Army in particular for inadequate screening of dependents needing specialized educational or medical intervention. AR 614-103 provides for the appropriate assignment of active duty soldiers with handicapped dependents. According to the GAO report, inadequate enforcement of this AR has resulted in severe hardship to many Army families and unnecessary costs to the government in medical evacuation and/or early return of many families.

The situation did not change appreciably in 2 years, when DOD lost a major lawsuit in Federal Court (Cox vs. Brown, Oct 80). The Court very clearly stated that DOD must comply with P.L. 94-142. Neither the General Counsel, DOD, nor the Justice Department found grounds for appeal, and both strongly recommended strict compliance with the court ruling. On 17 Dec 81, DOD instructions 1342.12, Education of Handicapped Children in DODDS was published, mapping out the plan to provide full education to handicapped children in overseas' schools.

DODDS began complying with the strictly educational aspect of P.L. 94-142, but could not provide for the related (i.e., medical) services dictated by law, since the alternative of State, County, and private medical resources providing care used extensively by school systems in the U.S. is not available in most overseas' locations. Consequently, the Army Medical Department became the agency primarily tasked with providing medical care under P.L. 94-142, especially in the large area of Germany. The Army's program, providing "medically related" services in support of P.L. 94-142 is what is now labeled the Exceptional Family Member Program (EFMP).

In general, the EFM Program provides screening and diagnosis in the U.S. for family members going to overseas' locations, in order to have the sponsor receive a pinpoint assignment to a location where specific services are available. Overseas, EFMP also provides screening and diagnosis, as well as related medical services.

## THE ROLE OF THE PSYCHOLOGIST IN THE EXCEPTIONAL FAMILY MEMBER PROGRAM, EUROPE

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The Exceptional Family Member Program, Europe (EFMP-E) was originally developed to identify and provide the medically related services for handicapped children in the Department of Defense Dependent Schools (DoDDS). The program, established under Department of Defense Instruction 1342-12 and Army Regulation 600-75, began with a single Exceptional Family Member Department at the Frankfurt Army Regional Medical Center in 1983 and has grown to 19 clinics in five short years. The psychologist's role in the multidisciplinary EFMP team is a very diverse and important one consisting of consultation, assessment and treatment of handicapped children. As a consultant to DoDDS the psychologist is called upon to aid in the establishment of individualized programs to meet the needs of handicapped children enrolled in the schools. As an evaluator the psychologist participates as a member of the multidisciplinary team to provide comprehensive assessments of children with special needs and as a treatment agent in providing psychological services that are usually not available from any other health care provider. The psychologist's role in this setting is diverse and requires familiarity with child development, developmental and psychoeducational assessments, medically handicapping conditions, learning problems, and behavioral interventions in a pediatric setting.

The role of psychology in pediatrics has vastly expanded since Anderson (1930) acknowledged the critical role that a psychologist could play in providing and expanding the services offered in a pediatric setting. In recent years psychologists have played an increasingly important part in the field of pediatrics as evidenced by the rapid expansion of the specialty of pediatric psychology (Wright, 1967), the rather dramatic increase in the number of psychologists publishing in pediatric journals and by the establishment of the Society of Pediatric Psychology and Journal of Pediatric Psychology within the American Psychological Association. Before the inception of the Exceptional Family Member Program (EFMP), Army psychologists had little formalized connection to pediatrics and only collaborated with pediatricians in a consultative role from within a Department of Psychiatry. With the establishment of the EFMP, Army psychologists now have the opportunity to function as integral members of this team, working within a pediatric setting and directly providing pediatric psychology services.

## EFM PROGRAM OVERVIEW

The Exceptional Family Member Program was established in 1982 by Department of Defense Instruction 1342-12 and Army Regulation 600-75 with the mission of providing medically related services to handicapped children within the Department of Defense Dependent Schools (DoDDS). Medically related services are defined as those services required by a handicapped child to benefit from an educational setting. Examples of medically related services are occupational and physical therapy for children with motor impairments, audiological services for children with hearing impairments. The impetus for the development of the EFMP was derived from Public Laws 94-142, 95-561 and from Department of Defense Instruction 1342.12. Basically these documents mandate that children are entitled to a free and appropriate education regardless of handicap and that when a handicapping condition interferes with the education of the child the educational institution is responsible for developing an appropriate program to educate that child. Within the United States (CONUS) medically related services are provided by the individual civilian school districts and are not the responsibility of the military medical departments. In contrast, at overseas areas such as Europe, education is provided by DoDDS, and the provision of medically related services is the responsibility of the military medical department. In an attempt to meet these obligations, the Department of Defense tasked each military service to develop a plan to provide the medically related services to children in DoDDS. In response to this directive the Army established the Exceptional Family Member Program.

The Exceptional Family Member Program in Europe has multiple missions. EFMP supports DoDDS by providing medically related services to handicapped students, provides comprehensive medical evaluations and treatment to all individuals from birth to 21 years old who are suspected of having a handicap, participates in "child-find" activities to identify family members who need specialized medical care, and codes handicapped family members into an automated system which is used to assist in the assignment of the sponsor. Unlike the CONUS EFMP which has the sole mission of identifying and coding exceptional family members, the EFMP in Europe is heavily oriented toward providing treatment to children.

In order to provide these services, the Exceptional Family Member Program in Europe has established 19 clinics scattered throughout the 7th Medical Command area of responsibility. Each of these clinics is staffed by a multidisciplinary core team consisting of a developmental pediatrician, child psychologist, social worker/program administrator, speech pathologist, occupational therapist and physical therapist. Additionally the teams at the regional medical centers in Frankfurt and Landstuhl are augmented with a child psychiatrist, audiologist, optometrist, and dietitian. Present staffing levels are 155 civilian and 45 military health care providers of which 24 civilian and six military positions are designated as psychologists. It should be noted that of these 30 psychology positions only 15 have ever been filled even though all 30 are funded. The reason for this situation is linked directly to recruitment and is currently being resolved. Figure 2 shows the distribution by specialty of medically related services provided to students in the DoDDS schools. In 1987 psychologists in the EFM provided 11% of all medically related services. Annually the EFMP in Europe has 120,000 patient visits with 6,600 children actually coded into the program. The annual budget for the program in Europe is \$6.3 million with a per enrolled cost of \$995 per year as compared to \$2,400 per student in civilian CONUS schools.



## THE PSYCHOLOGIST IN THE EFM SETTING

In order to fully understand the role of the military psychologist within the Exceptional Family Member Program, one must appreciate how this environment differs from the more traditional work settings of the military psychologist. LeBaron and Zeltzer (1985) have noted that the traditional setting for a clinical child psychologist is most often within a mental health clinic where children are referred for suspected psychological problems. Within this setting the focus is on broad-based assessment of psychopathology and secondary or tertiary treatment of problems. Patient volume is necessarily low due to the severity of the psychopathology being treated, and the psychologist is usually the sole treatment agent. In contrast, the usual setting for a pediatric psychologist is within a pediatric clinic where patient volume is high and time is at a premium. The pediatric psychologist provides primary and preventive services that most frequently involve joint medical and psychological interventions. The focus of the interventions tends to be more narrow than that of the clinical child psychologist and directly related to the presenting problem. The types of problems seen by the psychologist in a pediatric setting are usually less psychologically debilitating and most often are a combination of psychological and medical problems. These frequently include problem behaviors that interfere with the provision of medical treatment or are sequelae of medically based problems.

The role of the psychologist working within the Exceptional Family Member Program, Europe, is essentially that of a pediatric psychologist. The EFM psychologist works within a team framework where the emphasis is on the total functioning of the child and not just on the mental health aspects so that treatment must be integrated within the other medically related services being provided to a particular child. Within the team the psychologist is usually the subject matter expert on learning disabilities, intellectual functioning, adaptive behavior levels, and psychopathology. Additionally the psychologist must be able to provide psychological assessments of children with low incidence handicapping disorders such as blindness, deafness, movement disorders, and autism. Because the mission of the EFMP is to identify and provide medically related services for the handicapped child from birth, the psychologist is expected to provide developmental evaluations on high risk infants and assess the behavioral contributions of poor attachment, failure to thrive and family adjustment to handicapped infants. These skills are frequently not taught in traditional doctoral psychology programs and require specialty training.

The psychologists working within an EFM setting must also be familiar with and competent in school consultation. Much of the work of the EFM psychologist involves direct services to the schools, and the psychologist must be able to design and implement behavioral programs in the schools. These programs involve helping the seriously emotionally disturbed children to participate in classroom activities, helping children with attention deficits, and helping teachers develop better motivational programs for learning disabled children.

## ADVANTAGES OF WORKING IN AN EFM SETTING

A discussion of the role of the military psychologist in the EFM would not be complete without touching on the many advantages of this setting. The Exceptional Family Member Program setting provides one of the best training opportunities for the psychologist interested in working in pediatric psychology. Nowhere else in the Army can a psychologist have the opportunity to learn from several allied professions by working together with the same children. The training opportunities are rich beyond belief. The multidisciplinary team setting affords the psychologist the opportunity to learn first hand how vision problems can affect learning, how hearing loss can affect the adjustment of children, the impact that infant temperament can have on family functioning, the problems associated with genetic disorders and how movement disorders hinder later psychological development.

Another advantage for the military psychologist is working within a setting where the psychologist's expertise about behavior is unique and the psychologist is not in "competition" with other mental health providers. This aspect of the setting may also have its disadvantages in that the language of "mental health" is not used and hence the psychologist must learn and use the language of pediatrics in order to effectively communicate with other team members.

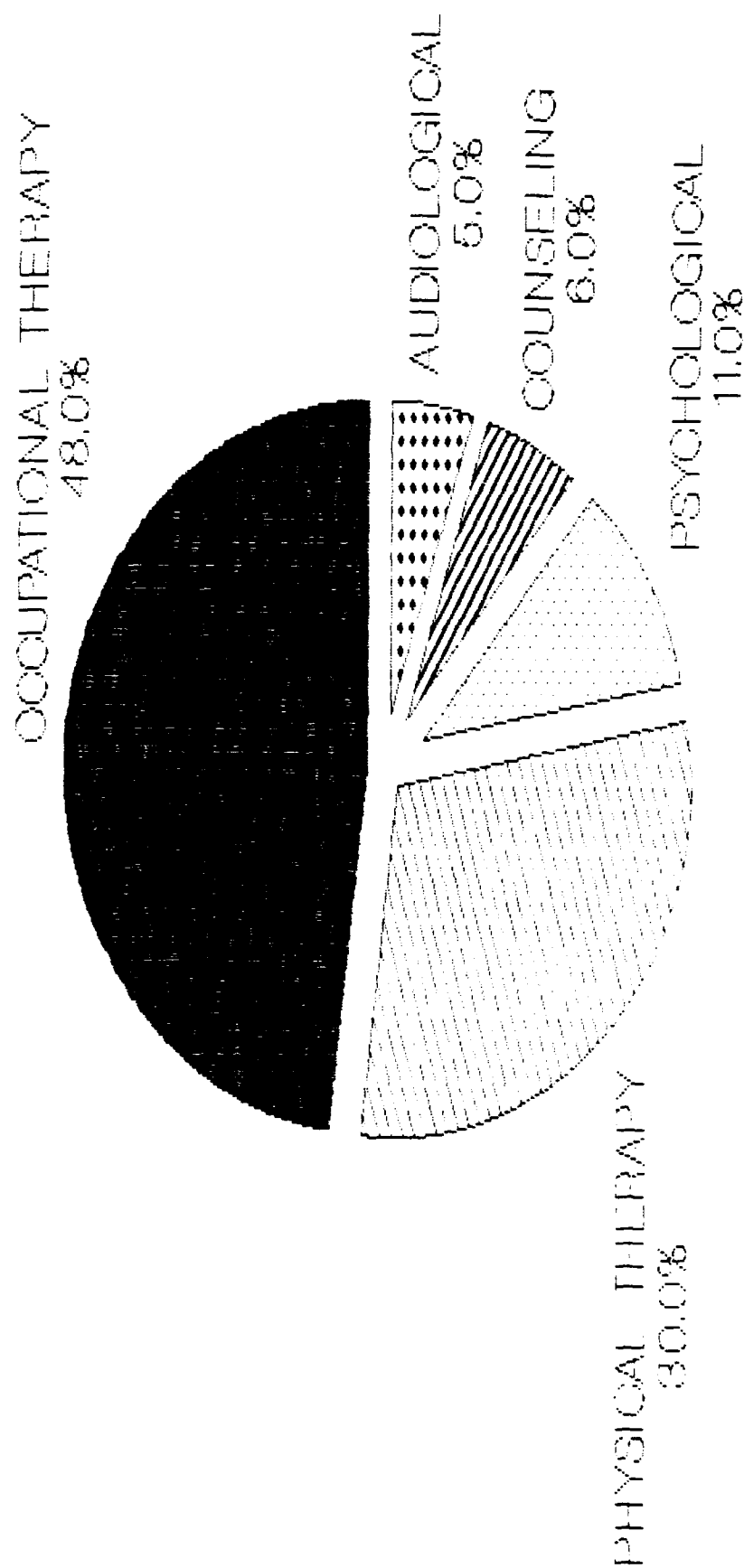
## SUMMARY

The Exceptional Family Member program is a relatively new Army program developed to provide medically related services to handicapped students within the Department of Defense Dependent School system. The EFMP in Europe is different from that in CONUS in that the treatment of children is the primary mission. The role of the military psychologist working in this system is dramatically different from the more traditional role of the military psychologist and involves the psychologist working within a multidisciplinary team setting and providing primary and preventative services. The opportunities for individual psychologists to contribute to improving the functioning of handicapped children while expanding their own training and knowledge base are the outstanding advantages of working in the Exceptional Family Member Program, Europe.

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**FIG. 2 MED-RELATED SERVICES  
DODDS-GERMANY 1987**



## PSYCHOLOGISTS' ROLES WITH REGARD TO THE EFMP IN CONUS

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### I. Referral of cases to the EFMP:

- A. Types of cases that should be referred
- B. Why cases should be referred
- C. When cases should be referred
- D. Types of cases that probably do not need to be referred and why
- E. How to refer a case to the EFMP
- F. Your role with regard to the EFMP after you have made a referral to the EFMP Point of Contact
  1. Completion of HSC Form 537-R
  2. Notation on HSC Form 537-R to include
    - a. Frequency of outpatient psych services anticipated
    - b. Duration of outpatient psych services anticipated
    - c. Whether or not in-patient psychiatric hospitalization is anticipated during the next 3-4 years
    - d. Types of outpatient psych services required -- e.g., individual, group, marital, family therapy, biofeedback training, medication monitoring, etc.
    - e. Types of mental health providers needed
    - f. Other pertinent factors to be considered

### II. Mental health screening for possible EFMP enrollment

1. Source and justification for these cases
2. Necessary actions for you
  - a. Completion of HSC Form 537-R with appropriate notations as above IF there is currently a DSM III-R diagnosable disorder present at this time. This may require an interview with the patient and/or review of available records.
  - b. It is possible that there is no diagnosable DSM III-R disorder present at this time. If this is the case, please state this on HSC Form 537-R.

### III. Prospective enrollees in the EFMP

- A. At the least, individuals should enroll who
  - 1. Will be traveling to a duty station with an active duty service member, and
  - 2. Are eligible for health care and/or education at government expense at the duty station, and
  - 3. Require more medical or educational support than that commonly found in small community hospital, or a small school.
- B. Patients with serious or chronic medical problems, physical handicaps, and emotional disorders should be enrolled. Indications of severity requiring enrollment are
  - 1. Three or more emergency room visits per year.
  - 2. One or more hospitalizations per year.
  - 3. Four or more clinic visits per year (Except for Well Baby Clinic visits).
- C. Patients who require intensive follow-up support and medical care (such as high-risk newborns or patients who have recently had cancer surgery) should be enrolled.
- D. Any patient requiring even a minimal level of mental health services should be enrolled.
- E. Data on students who require special education should be referred to the MEDCEN Coding Team for consideration.

### IV. It is useful that a brief, narrative clinical evaluation and history of care be present. As a minimum it should include

- A. DSM-III-R diagnosis
- B. Summary of past psychotherapies provided by mental health care professionals of any profession (psychiatry, psychology, social work, etc.), with emphasis on degree of compliance (is the patient motivated to cooperate care?) and effectiveness (did the therapy help?).
- C. Copies of most recent hospital discharge summary, if there has been hospitalization. Note: Steps should be taken to ensure adequate patient confidentiality with information.
- D. Careful clinical description of the patient at the period of maximum regression in the past (i.e., what did the person look like and do when at their worst?). Be specific, e.g., "suicide gesture" is not sufficient; the actions taken should be described.

E. Consequences if patient comes to Europe and does not receive care. This point is important because the clinician may decide that separation from sponsor with excellent care (if stays in CONUS) would be more harmful than coming to Europe where outpatient follow-up would be desirable but not always available.

V. Certain categories of patients are difficult to care for in overseas locations. Included are those with a reasonable expectation (judging from past behavior) of suicide gestures, requirements for psychiatric hospitalization, requirement for intensive outpatient psychotherapy, regressions which include behavior disruptive to the work of their sponsor, refusal to accept treatment.

## WHAT IS "NORMAL" NEUROPSYCHOLOGICAL PERFORMANCE?

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Inferences about brain condition are based upon assumptions of how persons perform who have negative neurological histories. This study examines some of these assumptions empirically.

### DESCRIPTION OF SUBJECTS AND TESTS

#### Subjects

The subjects used in this study met the following requirements:

1. Adults (age 16 and older).
2. Negative neurological histories.
3. Selected from the general community.
4. Intelligence representative of the general population.
5. Equal representation by sex.
6. Minority representation of 10%.

The group of subjects which was finally selected came from 20 different sources within the community. The basic biographical characteristics were:

<u>N</u>	120 (60 females, 60 males)
<u>Age</u>	Mean=27.77 years (SD=11.04)
<u>Education</u>	Mean=12.28 years (SD=2.18)
<u>Race</u>	108 Caucasian, 6 Black, 3 native American, 2 Asian American, 1 undetermined
<u>Handedness</u>	102 right handed, 18 left handed
<u>Occupational Status</u>	45 student, 37 employed, 26 unemployed, 11 homemaker, 1 retired

Also available were 61 other subjects who met all selection criteria except that they tended to be above average in intelligence. They were used in selected analyses only.

#### Tests Administered

An expanded Halstead-Reitan Neuropsychological Test Battery for Adults was administered. From these tests, 16 test measures were obtained, each of which in previous work has been shown to be sensitive to the presence of neurological conditions generally and epilepsy in particular (Dodrill, 1978). They are listed in the first table below.

The complete WAIS had been given to 81 subjects and the WAIS-R to 39. WAIS-R IQ approximations were obtained from the WAIS by subtracting seven points from the WAIS VIQ, PIQ, and FSIQ. Thus, all IQ scores were expressed in WAIS-R equivalents. The WAIS-R FSIQ mean was 100.00 and the SD was 14.35. An exactly normal distribution of test scores was obtained.

## RESULTS

### AVERAGE PERFORMANCES

Means and standard deviations are given here:

<u>Test Measure</u>	<u>Mean</u>	<u>SD</u>
Category Test	35.74	22.76
TPT, Total Time	13.65	7.21
TPT, Memory	7.86	1.26
TPT, Localization	4.97	2.36
Speech-sounds Perception Test	5.02	4.16
Seashore Rhythm Test	26.64	2.53
Finger Tapping Test	52.38	5.56
Halstead Impairment Index	.23	.23
Trail Making, Part A	25.37	9.17
Trail Making, Part B	66.02	34.15
Aphasia Screening (errors)	1.58	2.54
Visual-spatial distortion	.68	.84
Perceptual Exam (total err.)	4.04	5.05
Name writing (letters/sec)	1.09	.34
Stroop Test, Part I	83.16	19.83
Stroop Test, Part II-I	128.53	42.61
WMS Logical Memory (total)	22.36	7.56
WMS Visual Reproduction	10.79	2.70
Seashore Tonal Memory	23.75	5.56



## CUTOFF SCORES

Uniform cutoff scores were established using the criterion of a misclassification rate of as close as possible to 25% for the nonneurological group and are compared with existing cutoff scores:

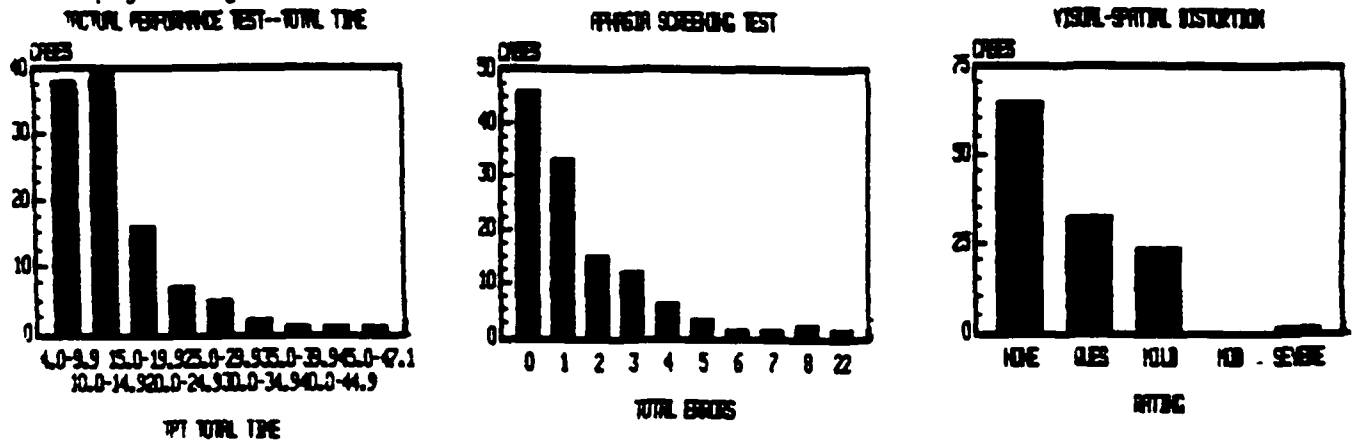
### Cutoff Scores and Misclassification Rates

<u>Test Measure</u>	<u>Uniform Cutoff</u>	<u>Old Cutoff</u>
Category	47/48 (24.2%)	50/51 (22.5%)
TPT, Total Time	15.1/15.2 (25.0%)	15.6/15.7 (21.7%)
TPT, Memory	8/7 (31.7%)	6/5 ( 5.0%)
TPT, Localization	4/3 (28.3%)	5/4 (39.2%)
Speech-sounds Perception	6/7 (19.2%)	6/7 (19.2%)
Seashore Rhythm	26/25 (27.5%)	26/25 (27.5%)
Tapping, Preferred (m)	51/52 (25.0%)	51/50 (21.7%)
Tapping, Preferred (f)	47/48 (28.3%)	51/50 (50.0%)
Tapping, Total (m)	97/96 (25.0%)	---
Tapping, Total (f)	93/92 (25.0%)	---
Halstead Impairment Index	.3/.4 (20.8%)	.4/.5 (12.5%)
Trail Making, Part A	29/30 (26.7%)	38/39 (11.7%)
Trail Making, Part B	75/76 (25.8%)	88/89 (13.3%)
Aphasia Screening (errors)	2/3 (21.7%)	---
Visual-spatial distort	Ques/Mild (20.0%)	---
Perceptual Exam (total err.)	5/6 (25.8%)	---
Name writing (let/sec)	.87/.86 (25.0%)	---
Stroop I	90/91 (24.2%)	---
Stroop II - I	150/151 (24.8%)	---
WMS Logical Memory (total)	18/17 (25.0%)	---
WMS Visual Reproduction	10/9 (21.7%)	---
Seashore Tonal Memory	22/21 (26.7%)	---
Discrimination Index	34/35 (22.5%)	---

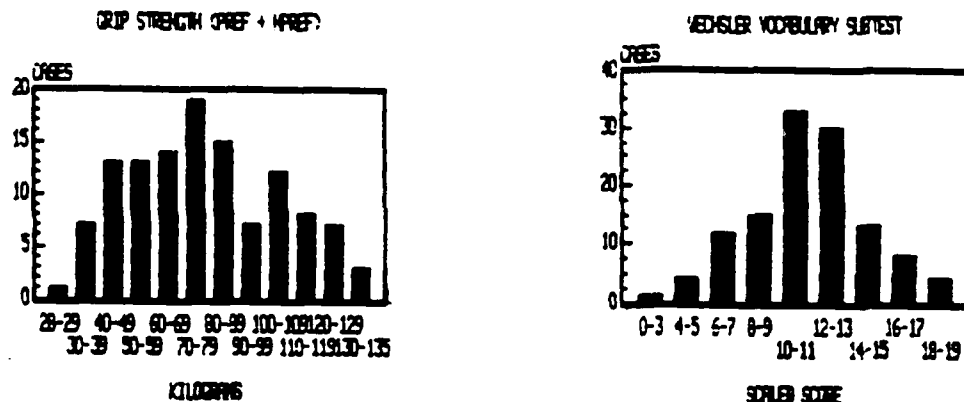
The Discrimination Index is the percentage of the 16 test measures which are outside normal limits using the cutoff points established by Dodrill (1978).

## DISTRIBUTIONS OF SCORES

Tests sensitive to neurological impairment are discovered to be routinely skewed in score distribution with the majority of nonneurological subjects on the end of good performance. Here are three examples of established neuropsychological test measures:



In contrast, note the score distributions on two measures which are relatively insensitive to brain functions:



The above implies that there would be few correlations between intelligence and neuropsychological scores for people who are above average in intelligence. In fact, only 5 of 19 neuropsychological measures showed such a relationship: Stroop I  $-.23$ ; Stroop II-I  $-.23$ ; WMS Logical Memory  $.36$ ; Seashore Rhythm  $.36$ ; Aphasia Test, Visual-spatial distortion  $-.22$ .

Another way to cast light on this question is to compute IQ-equivalent scores for various levels of intelligence. This was done through a series of analyses in which average scores on the neuropsychological tests were computed for every five point interval from 70 to 130 for all 181 subjects. The performances of all persons whose FSIQ score was within 10 points of either side of the target score were averaged. The result is the table on the next page.

## RANGES OF TEST SCORES IN RELATION TO INTELLIGENCE

It was possible to produce a system of ranges in test scores based upon ranges in intelligence. This system is shown here, first for the intelligence ranges and then for each neuropsychological measure based upon percentages of each score distribution falling in each range (n = 120):

### RANGES OF SCORES ON NEUROPSYCHOLOGICAL TESTS CORRESPONDING TO RANGES IN INTELLIGENCE

Variable	Range			
	1	2	3	4
FSIQ Equivalents	>89	80-89	70-79	<70
Percentiles	25-99	9-24	2-8	<2
Number of cases	91	19	8	2
<u>Category</u>	<u>&lt;48</u>	<u>48-71</u>	<u>72-97</u>	<u>&gt;97</u>
TPT Total Time	<15.1	15.2-24.1	24.2-38.6	>38.6
TPT Memory	8-10	6-7	5	<5
TPT Localization	4-10	2-3	0-1	--
Rhythm	26-30	23-25	19-22	<19
Speech-sounds	0-6	7-8	9-17	>17
Tapping total (m)	>96	88-96	66-87	<66
Tapping total (f)	>92	88-92	81-87	<81
Impairment Index	0.0-.3	.4-.6	.7	.9-1.0
Trail Making A	<30	30-39	40-49	>49
Trail Making B	<76	76-103	104-180	>180
Aphasia Screening	0-2	3-4	5-7	>7
Visual-spat. dis.	None-Ques	Mild	Moderate	Severe
Perceptual Exam	0-5	6-9	10-20	>20
Name writing	>.86	.61-.86	.48-.60	<.48
Stroop I	<91	91-106	107-139	>139
Stroop II - I	<151	151-185	186-256	>256
WMS Logical Memory	>17	13-17	7-12	<7
WMS Visual Repro.	10-14	7-9	4-6	<4
Tonal Memory	22-30	14-21	10-13	<10
Digit Symbol	8-19	7	5-6	1-4
TFR Total Time	16-18	19-23	24-33	>33
Discrimin. Index	0-34	35-59	60-78	79-100

This system allows the estimation of the frequency with which scores on the neuropsychological test measures will fall in each range with nonneuropsychological subjects. To do this, all 181 subjects were used and range scores were calculated on each of the 20 individual test measures summarized in the table above. The subjects were then divided by broad ranges of intelligence, and the average proportions of the neuropsychological tests falling in each range are shown here.

PROPORTIONS OF NEUROPSYCHOLOGICAL TESTS FALLING IN  
EACH OF FOUR RANGES WITH DIVISION OF SUBJECTS BY FSIQ

FSIQ	N	Range			
		1	2	3	4
60-89	29	.535	.257	.160	.048
90-110	94	.806	.156	.033	.005
111-138	58	.892	.089	.016	.003

This table verifies the fact that the big gap between the groups is between the below average group and the average group, not between the average and the above average group. The table also indicates a likelihood that results from similar neuropsychological tests will fall in the various score ranges.

CONSTELLATIONS OF TEST SCORES

Here is a common conceptual grouping for the Halstead-Reitan Battery:

CONCEPTUAL GROUPING OF HALSTEAD-REITAN TEST MEASURES

Abstraction/Concept Formation

Category Test  
Trail Making Test, A & B

Motor Functions

Finger Tapping Test  
Grip Strength  
TPT, Total Time

Sensory-Perceptual Functions

Sensory-perceptual Exam  
Tactile Form Recognition

Alertness and Concentrated Attention

Seashore Rhythm  
Speech-sounds Perception

Verbal Abilities

Aphasia Screening  
Speech-sounds Perception  
WAIS Verbal Subtests

Incidental Memory

TPT, Memory  
TPT, Localization

Visual-spatial Skills

Trail Making, A & B  
WAIS Performance Subtests  
Drawings, Aphasia Exam

Do the data support this grouping? That is, do the tests within each of these categories correlate with each other more than across categories? Using standard variables (including VIQ, PIQ, and TFR Time), the results of a correlational analysis were as follows:

ABSOLUTE INTRAGROUP AND INTERGROUP MEDIANS FOR 120 NORMAL  
SUBJECTS BY CONCEPTUAL GROUPING

Group	Abs. C.For.	Motor	Sens. Perc.	Alert. Attn.	Verbal	Incid. Memory	Vis.- Spat.
Abstraction	---						
Motor	.22	---					
Sensory Perc.	.48	.27	---				
Alertness Attn.	.33	.22	.30	---			
Verbal	.35	.35	.38	.35	---		
Incid. Memory	.36	.19	.30	.20	.25	---	
Visual-spatial	.45	.26	.39	.32	.29	.26	---
Summary							
Intergroup	.36	.24	.34	.31	.35	.26	.36
Intragroup	.46	.34	.42	.23	.42	.55	.40

The median intragroup correlation was .42 and the median intergroup correlation was .34. The difference in common variance was 6%. The question can of course be raised as to whether or not the tests could somehow be grouped to get better intragroup correlations while weakening the intergroup correlations. This was done on an empirical basis with the following results:

EMPIRICAL GROUPING OF 20 TEST MEASURES FROM AN  
EXPANDED HALSTEAD-REITAN BATTERY

Problem Solving

Category Test  
TPT, Time  
Trail Making, B

Motor Functions

Finger Tapping (total)  
Dynamometer (total)

Sensory Perceptual

Sensory-Perceptual Exam  
--Misperceptions (all)  
--Suppressions (all)  
--Finger agnosia  
--Agraphagnosia  
--TFR errors  
--TFR time

Alertness and Concentrated Attention

Seashore Rhythm  
Seashore Tonal Memory  
Stroop II - I

Verbal Abilities

Verbal IQ  
Stroop I  
Aphasia Screening  
Speech-sounds Perception

Memory

WMS Logical Memory  
WMS Visual Reproduction  
TPT Memory  
TPT Localization

Visual-Spatial Skills

Trail Making, A  
Performance IQ  
Visual-spatial distortion,  
Aphasia drawings

The median intergroup correlations for this classification were as follows:

#### MEDIAN INTERGROUP CORRELATIONS FOR 120 CONTROL SUBJECTS

Group	Motor	Verbal	Attention	Memory	Perceptual	Prob. Solv.	Visual-Spatial
Motor	---						
Verbal	.17	---					
Attention	.21	.29	---				
Memory	.15	.25	.17	---			
Perceptual	.16	.25	.16	.20	---		
Prob. solv.	.22	.40	.29	.36	.33	---	
Visual-spat.	.18	.27	.30	.21	.18	.37	---
Summary							
Intergroup	.18	.26	.25	.20	.19	.34	.24
Intragroup	.52	.50	.39	.40	.21	.54	.37

The median intergroup correlation overall is .25 and the median intra-group correlation is .40. The difference in common variance is 10%.

#### LATERALIZATION ISSUES

Six lateralizing indicators were established:

<u>Indicator</u>	<u>Method of Indicator Computation</u>
Perceptual Exam	Errors nonpreferred body side/total errors
TFR Time	Total nonpref. time/total preferred time
Name writing	Nonpref. letters per sec/pref. letters per sec
Finger Tapping	Nonpreferred/preferred
Dynamometer	Nonpreferred/preferred
TPT	1-(nonpreferred/preferred)

Subjects were considered for the Perceptual Exam indicator only if they had made at least four errors on the complete test. Distributions of these scores were set up for each test variable. In general, the extreme 10% of each distribution was considered deviant, a criterion which corresponded to common clinical use. Exceptions were the Perceptual Exam and TFR Time where only 3-4% of the end of each distribution was clinically lateralizing. The following criteria of normality/abnormality resulted:

# RANGES OF LATERALIZING INDICATORS

<u>Test</u>	<u>Preferred Body Side Implicated</u>	<u>Normal</u>	<u>Nonpreferred Body Side Implicated</u>
Perceptual	<.20	.20-.60	>.60
TFR Time	<.60	.60-1.32	>1.32
Name writing	<.23	.23-.56	>.56
Finger Tapping	>1.00	.82-1.00	<.82
Dynamometer	>1.01	.78-1.01	<.78
TPT	>.57	-.16-+.57	<-.16

With these criteria at hand, the number of lateralizing signs with respect to each side of the body was calculated and also the grand total. The results are shown here:

## NUMBER OF LATERALIZING SIGNS

<u>Number</u>	<u>Preferred Side</u>	<u>Nonpreferred Side</u>	<u>Total</u>
0	61%	63%	38%
1	32%	25%	37%
2	6%	11%	16%
3	1%	1%	7%
4	0%	0%	2%

## REFERENCE

Dodrill, C. B. (1978). A neuropsychological battery for epilepsy. Epilepsia, 19, 611-623.

Approximate Raw Scores on Neuropsychological Tests Corresponding to WAIS-R Full Scale IQ Scores.

N	WAIS-R FSIQ	Category	TPT, Total Time	TPT, Memory	TPT, Localization	Rhythm	Speech-sounds	Tapping total (B)	Tapping total (F)	H. Impair. Index	Trial Making A	Trial Making B	Aphasia Screening	Visual-spatial dis.	Perceptual Exam	Name Writing total	Stroop I	Stroop II - I	WMS Logical Memory	WMS Visual Repro.	Tonal Memory	Digit Symbol	IFR Total Time	Discrimination Index
7	130	29	10.8	8	5	29	5			.18	20	50	1	None	4	1.14	72	100	31	12	28	12	20	13
18	125	23	10.9	8	5	29	4	104	102	.12	21	47	1	None	3	1.10	73	102	29	12	27	12	18	12
34	120	21	10.9	8	6	28	4	107	100	.10	20	48	1	None	2	1.08	74	108	29	12	27	12	18	11
64	115	22	10.8	8	6	28	4	107	99	.10	22	49	1	None	2	1.08	77	112	28	12	26	12	18	11
93	110	26	11.6	8	6	27	4	106	99	.14	23	53	1	None	3	1.10	80	121	26	12	26	11	18	14
101	105	30	12.1	8	6	27	5	106	98	.18	24	56	1	Ques	3	1.11	82	125	24	12	25	11	18	17
75	100	33	12.4	8	6	26	5	106	97	.19	25	60	1	Ques	3	1.10	82	127	22	11	25	10	18	19
60	95	36	12.9	8	5	26	5	102	96	.22	26	62	1	Ques	3	1.07	83	130	21	11	24	9	18	22
48	90	41	14.2	8	5	26	5	(98)	94	.26	26	68	2	Ques	4	1.03	85	132	19	10	22	9	19	29
33	85	47	17.7	7	4	26	6	(94)	(92)	.36	28	82	3	Ques	6	.99	90	134	17	9	21	8	19	38
19	80	54	21.0	7	4	25	8	(92)	(90)	.49	30	99	4	Ques	8	.96	100	151	17	8	20	8	18	49
10	75	70 (26.5)		7	3	24	11			.64	33	135	5	Mild	13	.95	113	160	14	7	18	8	23	61
5	70	77 (27.6)		6	3	23	14			.70	39	159	8	Mild	17	.93	131	178	12	5	13	6	24	73

Note: Data represent averages of all persons within 10 FSIQ points of the target score. ( ) indicates smoothing to maintain continuity



REPLICATION AND CROSS VALIDATION OF THE  
NEUROPSYCHOLOGICAL BATTERY FOR EPILEPSY  
IN A NON-EPILEPTIC, NEUROLOGICALLY IMPAIRED POPULATION

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The Neuropsychological Battery for Epilepsy (Dodrill, 1978) is a variation of the Halstead-Reitan Battery which was designed to be particularly sensitive to neurobehavioral impairments commonly found in patients with seizure disorders. Additions to the Halstead-Reitan Battery include tests of memory, fine motor control, concentration, and mental flexibility. While the original norms and cutoff scores were developed by comparing normals with epileptics, the battery has also been found to be useful in evaluating patients with other neurological conditions. However, it has not been formally cross-validated with a non-seizure patient population.

In this study, the performance of 30 normal controls was compared with that of two patient groups: 30 patients with history of mild closed head injury (loss of consciousness less than 24 hours) and 30 patients with a variety of neurological conditions, to exclude epilepsy. For this latter group, there was also corroborating laboratory evidence (e.g., EEG, CT scan, MRI) of brain abnormality. All patients were evaluated on an outpatient basis.

The results of the study indicate that the Neuropsychological Battery for Epilepsy as a whole is more sensitive than the Halstead-Reitan battery in differentiating between normals and patients with a history of mild head trauma or other documented abnormal brain conditions. However, some of the individual measures did not reach significant levels. Reasons for these findings are discussed, along with a discussion of the utility of the battery in the functional evaluation of individual patients.

The Neuropsychological Battery for Epilepsy (Dodrill, 1978) is a supplemented version of the Halstead-Reitan Battery (HRB) (Reitan, 1955) which was developed because of limitations of the HRB in assessment of patients with seizure disorders. Specifically, it was recognized that the development of the HRB did not adequately consider the side effects of anticonvulsant medications, the influence of poorly controlled seizures on higher cognitive abilities, or the behavioral correlates of abnormal EEG findings. In addition, memory functions were poorly assessed by the standard HRB, as were sustained attention and resistance to distraction. In the development of norms for the HRB, sex differences on motor measures were not considered, and the original control groups were not representative of the general population. Dodrill modified the battery to include measures of memory, fine motor control, concentration, and mental flexibility. In addition, he developed an objective scoring system for the drawings of the aphasia screening test and new cutoff scores for the traditional tests included in the HRB, based on a more representative normal sample. Cutoff points were set so that between 20 and 30% of normals fell outside of normal limits. His final battery of 16 discriminative measures was found to be sensitive to even subtle manifestations of impaired brain functioning, and was able to correctly classify a higher percentage of controls and epileptics than the standard HRB, in both his original and cross validation study. Table 1 shows the final 16 test variables and their cutoff scores.

Because of its sensitivity and more comprehensive assessment of brain-behavior relationships, the Neuropsychological Battery for Epilepsy has been found to be highly useful in the differential diagnosis and functional evaluation of a wide variety of patients with suspected or known neurological impairments. However, it has never been formally cross-validated to determine its ability to discriminate between normals and neurologically impaired, non-epileptic patients. The purpose of this study was to conduct such a cross-validation using Dodrill's cutoff scores, to determine the ability of both individual tests and the battery as a whole to discriminate between normal controls and patient groups with known pathologies.

## METHOD

The performance of 30 normal controls on the Neuropsychological Battery for Epilepsy was compared to that of two distinct patient groups. The normals were obtained from a variety of sources, and were screened to eliminate anyone with positive neurological or psychiatric histories, or any acute or chronic medical condition. The patient groups consisted of individuals evaluated at the Madigan Army Medical Center Neuropsychology Laboratory or in the private practices of two different neuropsychologists. The mild closed head injury group included 30 patients with a history of known head trauma with loss of consciousness (momentary to less than 24 hours). At the time of evaluation they were at least six months post injury and were living at home. The mixed neurological group included 30 patients with known neurological insult and laboratory corroboration (EEG, CT scan, MRI) of abnormal brain structure or functioning. All patients were evaluated on an outpatient basis. Table 2 includes subject information for the control, mild CHI, and mixed neurological groups.

## RESULTS

Information concerning means and standard deviations for the controls, mild CHI, and mixed neurological groups is presented in Table 3. For comparison purposes, data for the speech sounds perception test (which did not significantly discriminate between groups in Dodrill's original study), and the Halstead Impairment Index are also presented.

In comparing the performance of the controls and the mild CHI groups, there was a significant difference between groups (.0001) for both the Dodrill Discrimination Index and the Halstead Impairment Index. However, as indicated in Table 4, 6 of the original 16 discriminative measures did not reach a significance level of .05 (TPT localization, tapping/males, aphasia screening test errors, constructional dyspraxia, name writing, and WMS/visual reproductions), while the speech sounds perception test did reach significance. The most sensitive measures included the Category test, tapping/females, and the Dodrill and Halstead indices.

A comparison of the accuracy of subject by subject classification (controls and mild CHI) using both Dodrill's and Halstead's (1947) cutoff scores is presented in Table 5. The Dodrill Discrimination Index correctly classified 100% of the normals, and 53% of the mild CHI patients, for a combined accuracy of 77%. For the Halstead Impairment Index, the percentages were 87, 57, and 67, respectively. Thus, it is clear that the Dodrill Index was more accurate in correctly identifying normals and in correct classification of the combined groups. Of the 16 discriminative measures, the most accurate single predictors for the combined groups were tapping/females, tonal memory, and Stroop II-I, while the least accurate was the rating of constructional dyspraxia.

For the control vs. the mixed neurological groups, the results were similar. As indicated in Table 6, the Dodrill and Halstead indices revealed highly significant differences between groups, as did the individual tests of tapping/females, Trails B, and WMS/logical memory (all .0001). Five tests (Seashore rhythm, aphasia screening errors, constructional dyspraxia, name writing, and WMS/visual) did not reach significance. The latter four tests did not cross validate as significant discriminators between the normals and either patient group.

The percent correct classifications for the controls and mixed neurological group are presented in Table 7. For the combined groups, the Dodrill Index (83%) was again more accurate than the Halstead Impairment Index (77%). The most accurate individual tests for the combined groups were tapping/females, WMS/logical memory, and Trails B, while the least accurate were aphasia screening errors and constructional dyspraxia.

## DISCUSSION

Accuracy in prediction is the hallmark of a good diagnostic instrument (Filskov and Goldstein, 1974). This cross validation study indicates that the Neuropsychological Battery for Epilepsy as a whole, as measured by the Dodrill Discrimination Index, is highly sensitive in discriminating between normals and patients with a history of mild closed head injury with loss of consciousness, or with other confirmed neurological impairments. In correctly classifying individuals, the Dodrill Index is 6 to 10% more accurate than the Halstead Impairment Index.

The failure of some measures of motor speed (tapping/males, name writing) to cross validate probably reflects the fact that few of the patients in the current study were on anticonvulsant medications, as opposed to 90% of the patients in Dodrill's original study. It has been well established that phenytoin (Dilantin) tends to reduce motor speed (Dodrill, 1975); it is not surprising that the motor performance of patients not on anticonvulsants was closer to that of normals.

For the variables of WMS/visual reproductions, constructional dyspraxia, and aphasia screening errors, the failure to cross validate may reflect a degree of "examiner drift" between the Epilepsy Center and Madigan Laboratories. Post hoc review of several individual test protocols revealed that more liberal scoring criteria were being used at the Madigan Laboratory, which resulted in those patients receiving "better" scores than they would have if the scoring had been done at the Epilepsy Center. This suggests the need for strict, conservative scoring criteria and occasional checks of inter-rater reliability if these measures are to reliably discriminate between normals and those with impaired brain functioning. It is also possible that the limited number of points possible with the WMS/visual reproductions reduces the sensitivity of this measure, and that other measures of visual memory, such as the Rey-Osterreith Complex Figure (Lezak, 1983), or the Wechsler Memory Scale-Revised (Wechsler, 1987), would be more sensitive to subtle impairments of visual memory.

The results of the current study reinforce the broad utility of the Neuropsychological Battery for Epilepsy, which should probably be renamed the Dodrill modification of the Halstead-Reitan Battery, to reflect its more general usefulness. The Dodrill Discrimination Index, which reflects the percentage of 16 discriminative measures outside of normal limits, is a conservative measure which minimizes false positives, in which few "normals" are classified as impaired. While it is not uncommon for controls to perform outside of normal limits on 2 or 3 measures, it is rare for them to do so on seven or more. Using this suggested cutoff score, 100% of normals, 53% of mild CHI, and 66% of mixed neurological patients were correctly classified. The comparatively poor classification of the mild CHI patients may reflect the possibility that, although they had a documented history of head injury with loss of consciousness, they may not have actually sustained damage to brain tissue per se, and were, in fact, "normal" at the time of evaluation. Although some patients with subtle impairments may have been "missed" and classified as normal when using a quantitative level of performance analysis alone, it is clear that if an individual's overall performance fell within the impaired range, then it was more probable than not that this was a result of true impairment of brain functioning.

Clinical experience with this battery indicates that it has great utility in assisting in the differential diagnosis of a wide variety of possible neurological impairments, in determining the functional effects of known abnormal brain conditions, in treatment planning and assessment of rehabilitation efforts, and in monitoring the course (improvement or decline) of brain injury or disease. While additional, supplemental measures may occasionally need to be used for more detailed evaluation of specific impairments or particular referral questions, the Dodrill Modification of the Halstead-Reitan Battery is an excellent "core battery" which provides a sensitive and comprehensive assessment of brain-behavior relationships.

A major limitation of this battery is the fact that it was developed on a population of young adults with a high school education. As numerous studies have suggested (Adams, Boake, & Craine, 1982; Bak & Greene, 1980; Bornstein, 1983; Finlayson, Johnson, & Reitan, 1977; Prigatano & Parsons, 1976; Vega & Parsons, 1967), there is a relationship between variables such as age, education, and performance on the Halstead-Reitan Battery and associated measures. Generalization of the norms and cutoff scores of Dodrill's battery to patients significantly different in terms of age or education should be done with caution, and other methods of clinical inference, such as right/left comparisons, pattern of performance, and pathognomonic signs, should be used in reaching diagnostic conclusions. A useful direction for further research would be to develop correction factors for subject variables such as age, education, or intellectual ability (IQ) for the measures used in the current battery.

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TABLE 1  
TEST VARIABLES AND CUTOFF SCORES

Test Variable	Cutoff score (inside/outside)
Category test	53/54 errors
TPT, Total Time	16.2/16.3 min
TPT, Memory	8/7 blocks remembered
TPT, Localization	4/3 blocks localized
Seashore Rhythm	26/25 correct
Tapping, Total (males)	101/100 taps (avg)
Tapping, Total (females)	92/91 taps (avg)
Trail Making, Part B	81/82 sec
Aphasia Screening, Errors	2/3 errors
Constructional Dyspraxia	questionable/mild
Perceptual Exam, Errors	6/7 errors
Seashore Tonal Memory	22/21 correct
Stroop, Part I	93/94 sec
Stroop, Part II-I	150/151 sec
Name Writing (let/sec)	0.85/0.84 let/sec
WNS, Logical Memory	19/18 total memories
WMS, Visual Reproduction	11/10 total points
Discrimination Index (Percent of tests outside of normal limits)	6/7 outside normal limits

TABLE 2  
SUBJECT INFORMATION FOR THE CONTROL, MILD CHI,  
AND MIXED NEUROLOGIC GROUPS

Variable	Control Group	Mild CHI Group	Mixed Neuro Group
Number	30	30	30
Sex			
Male	15	18	15
Female	15	12	15
Age			
Mean	30.60	38.90	30.97
SD	9.00	15.05	10.22
Education			
Mean	13.37	12.53	13.20
SD	2.43	3.29	2.25



TABLE 3  
COMPARISON OF MEANS BETWEEN GROUPS

Test Variable	Groups					
	Control		Mild CHI		Mixed Neuro	
	Mean	(SD)	Mean	(SD)	Mean	(SD)
Category	31.17	(16.01)	58.77	(26.65)	54.53	(26.69)
TPT, Total Time	12.70	( 5.07)	15.59	( 4.72)	20.04	( 7.80)
TPT, Memory	7.90	( 1.12)	7.17	( 1.53)	6.67	( 2.06)
TPT, Localization	4.67	( 2.55)	3.97	( 2.14)	2.47	( 2.10)
Seashore Rhythm	26.37	( 2.47)	24.17	( 3.05)	24.93	( 3.88)
Tapping, Total (males)	102.10	(12.57)	93.56	(12.99)	92.36	(11.40)
Tapping, Total (females)	99.20	( 7.72)	81.17	(11.25)	81.99	(10.06)
Trail Making, Part B	57.40	(13.13)	75.67	(29.19)	96.06	(47.43)
Aphasia Screening, Errors	1.63	( 1.92)	2.97	( 3.16)	3.17	( 4.17)
Constructional Dyspraxia	0.60	( 0.72)	0.60	( 0.62)	0.97	( 0.76)
Perceptual Exam, Errors	3.20	( 3.90)	6.57	( 6.16)	12.13	(13.63)
Seashore Tonal Memory	24.23	( 4.34)	18.43	( 6.32)	20.00	( 6.10)
Stroop, Part I	81.67	(11.62)	99.00	(23.84)	102.30	(28.12)
Stroop, Part II-I	124.00	(32.81)	171.90	(81.82)	175.20	(85.41)
Name Writing (let/sec)	1.12	( 0.27)	1.10	( 0.27)	1.08	( 0.39)
WMS, Logical Memory	24.00	( 6.49)	18.80	( 6.28)	16.67	( 6.00)
WMS, Visual Reproduction	10.70	( 2.38)	10.47	( 2.90)	9.70	( 3.21)
Speech Sounds Perception (errors)	5.33	( 2.51)	8.53	( 3.71)	7.97	( 5.41)
Discrimination Index (Percent of tests outside of normal limits)	0.20	( 0.13)	0.46	( 0.20)	0.53	( 0.25)
Halstead Impairment Index	0.24	( 0.21)	0.53	( 0.26)	0.57	( 0.28)

TABLE 4  
COMPARISONS BETWEEN CONTROL AND MILD CHI GROUPS

Test Variable	Control		Mild CHI		U Prob. *
	Mean	(Median)	Mean	(Median)	
Category	31.17	( 16.00)	58.77	( 32.00)	.0001
TPT, Total time	12.70	( 12.75)	12.59	( 16.00)	.0059
TPT, Memory	7.90	( 9.00)	7.17	( 7.00)	.0465
TPT, Localization	4.67	( 2.50)	3.97	( 3.50)	.2399
Seashore Rhythm	26.37	( 26.00)	24.17	( 24.00)	.0046
Tapping, Total (males)	102.10	(111.00)	93.46	( 96.60)	.0624
Tapping, Total (females)	99.20	( 99.00)	81.17	( 91.20)	.0001
Trail Making, Part B	57.40	( 48.00)	75.67	( 58.50)	.0114
Aphasia Screening, Errors	1.63	( 1.00)	2.97	( 2.00)	.0848
Constructional Dyspraxia	0.60	( 1.00)	0.60	( 1.00)	.8650
Perceptual Exam, Errors	3.20	( 1.00)	6.57	( 6.00)	.0114
Seashore Tonal Memory	24.23	( 28.00)	18.43	( 16.50)	.0006
Stroop, Part I	81.67	( 89.50)	99.00	(102.50)	.0010
Stroop, Part II-I	124.00	(122.00)	171.90	(178.00)	.0090
Name Writing (let/sec)	1.12	( 1.39)	1.10	( 1.60)	.7339
WMS, Logical Memory	24.00	( 25.00)	18.80	( 24.00)	.0010
WMS, Visual Reproduction	10.70	( 12.00)	10.47	( 10.00)	.9411
Speech Sounds Perception (errors)	5.33	( 7.00)	8.53	( 7.50)	.0007
Discrimination Index (Percent of tests outside of normal limits)	0.20	( 0.12)	0.46	( 0.40)	.0001
Halstead Impairment Index	0.24	( 0.30)	0.53	( 0.30)	.0001

\* Since the assumption of homogeneity of variance was not met, instead of an analysis of variance, probability values are based on the Mann-Whitney U Statistic.

TABLE 5  
PERCENTAGES OF CORRECT CLASSIFICATION OF SUBJECTS  
FOR ALL DISCRIMINATIVE MEASURES,  
USING DODRILL'S AND HALSTEAD'S CUTOFF SCORES

Test Variable	Percent correct classification				
	Control Group	Mild CHI Group	Combined Groups	False Positives	False Negatives
=====					
Category					
Dodrill	87	53	70	13	47
Halstead	86	53	70	14	47
TPT, Total time					
Dodrill	87	43	65	13	57
Halstead	80	53	67	20	47
TPT, Memory					
Dodrill	73	53	63	27	47
Halstead	96	13	55	4	87
TPT, Localization					
Dodrill	67	50	58	33	50
Halstead	57	60	58	43	40
Seashore Rhythm					
Dodrill	70	63	67	30	37
Halstead	70	63	67	30	37
Tapping, Total (males)	60	67	64	40	33
Tapping, Total (females)	87	83	85	23	27
Tapping (Halstead)	63	73	68	37	37
Trail Making, Part B	96	40	68	4	60
Aphasia Screening, Errors	70	40	55	30	60
Constructional Dyspraxia	87	7	47	23	93
Perceptual Exam, Errors	87	36	62	23	64
Seashore Tonal Memory	80	70	75	20	30
Stroop, Part I	83	56	70	17	44
Stroop, Part II-I	83	60	72	17	40
Name Writing (let/sec)	90	23	56	10	77
WMS, Logical Memory	83	50	67	17	50
WMS, Visual Reproduction	60	47	53	40	53
Dodrill's Index	100	53	77	0	47
Speech Sounds Perception (errors)	73	53	63	27	47
Halstead Impairment Index	87	57	67	13	43

TABLE 6  
COMPARISON OF MEANS BETWEEN CONTROLS  
AND MIXED NEUROLOGICAL GROUPS

Test Variable	Control Group		Mixed Neuro Group		P VALUE *
	Mean	(Median)	Mean	(Median)	
Category	31.17	( 16.00)	54.53	( 64.50)	.0003
TPT, Total time	12.70	( 12.75)	20.04	( 19.05)	.0004
TPT, Memory	7.90	( 9.00)	6.67	( 5.00)	.0177
TPT, Localization	4.67	( 2.50)	2.47	( 2.50)	.0011
Seashore Rhythm	26.37	( 26.00)	24.93	( 24.00)	.2740
Tapping, Total (males)	102.10	(111.00)	92.36	( 96.54)	.0324
Tapping, Total (females)	99.20	( 99.00)	81.99	( 92.20)	.0001
Trail Making, Part B	57.40	( 48.00)	96.06	(108.50)	.0001
Aphasia Screening, Errors	1.63	( 1.00)	3.17	( 1.50)	.1669
Constructional Dyspraxia	0.60	( 1.00)	0.97	( 1.50)	.0796
Perceptual Exam, Errors	3.20	( 1.00)	12.13	( 10.00)	.0011
Seashore Tonal Memory	24.23	( 28.00)	20.00	( 26.50)	.0031
Stroop, Part I	81.67	( 89.50)	102.30	( 99.50)	.0010
Stroop, Part II-I	124.00	(122.00)	175.20	(182.50)	.0081
Name Writing (let/sec)	1.12	( 1.39)	1.08	( 0.72)	.8360
WMS, Logical Memory	24.00	( 25.00)	16.67	( 12.00)	.0001
WMS, Visual Reproduction	10.70	( 12.00)	9.70	( 10.00)	.2581
Discrimination Index (Percent of tests out- side of normal limits)	0.20	( 0.12)	0.53	( 0.66)	.0001
Speech Sounds Perception (errors)	5.33	( 7.00)	7.97	( 6.00)	.1119
Halstead Impairment Index	0.24	( 0.30)	0.57	( 0.65)	.0001

\* Probability values based on the Mann-Whitney U Statistic

TABLE 7  
PERCENTAGES OF CORRECT CLASSIFICATION  
OF SUBJECTS FOR ALL DISCRIMINATIVE MEASURES  
USING DODRILL'S AND HALSTEAD'S CUTOFF SCORES  
(CONTROL VERSUS MIXED GROUPS)

Test Variable	Percent correct classification			False	False
	Control	Mixed Neuro	Combined	Positives	Negatives
-----					
Category	Group	Group	Groups		
=====					
Dodrill	87	50	70	13	50
Halstead	86	53	70	14	47
TPT, Total time					
Dodrill	87	63	75	13	37
Halstead	80	73	77	20	27
TPT, Memory					
Dodrill	73	57	65	27	43
Halstead	96	30	63	4	70
TPT, Localization					
Dodrill	67	73	70	33	27
Halstead	57	87	72	43	13
Seashore Rhythm					
Dodrill	70	50	60	30	50
Halstead	70	50	60	30	50
Tapping, Total (males)	60	80	70	40	20
Tapping, Total (females)	87	80	83	23	20
Tapping (Halstead)	63	67	65	37	33
Trail Making, Part B	96	56	77	4	44
Aphasia Screening, Errors	70	40	55	30	60
Constructional Dyspraxia	87	27	57	13	73
Perceptual Exam, Errors	87	47	67	13	53
Seashore Tonal Memory	80	57	68	20	43
Stroop, Part I	83	53	68	17	47
Stroop, Part II-I	83	47	65	17	53
Name Writing (let/sec)	90	30	60	10	70
WMS, Logical Memory	83	73	78	17	37
WMS, Visual Reproduction	60	60	60	40	40
Dodrill's Index	100	66	83	0	44
Speech Sounds Perception					
(errors)	73	33	53	27	67
Halstead Impairment Index	87	66	77	13	44

DISCRIMINATION OF NEUROLOGIC PATIENTS  
FROM NON-NEUROLOGIC CONTROLS USING THE REY AUDITORY VERBAL  
LEARNING TEST

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This study evaluated the ability of the Rey Auditory Verbal Learning Test (AVLT) to discriminate between neurologic patients and non-neurologic controls. Subjects were 50 patients with a mixture of medically confirmed neuropathologies, and 50 paid volunteer controls with no evidence of neurological history. Groups were matched for age (mean = 27.09, s.d. = 7.38), education (mean = 12.58 years, s.d. = 1.92), and sex (54% female, 46% male). The AVLT was administered as a routine part of a full neuropsychological battery. Results indicated that all seven AVLT recall trials and the total of trials I-V could significantly differentiate between the two groups, with  $p < .001$ . The AVLT trial V score performed best ( $M = 457.5$ ,  $p < .0001$ ), correctly predicting group membership 74% of the time. This hit-rate was better than any other individual measure on the Halstead-Reitan or Dodrill batteries, and was surpassed only by the Dodrill Discrimination Index. The potential usefulness of this instrument as part of a neuropsychological battery is discussed.

The assessment of memory functioning is often a critical concern in neuropsychological evaluations. However, the standard neuropsychological assessment batteries have been criticized for their insufficient attention to this complex area. The most widely used instrument designed to evaluate memory functioning, the Wechsler Memory Scale (WMS) (Wechsler, 1945) has been criticized for its lack of a theoretical basis, for treating memory as a single construct, and for questionable psychometric properties (Erikson & Scott, 1977). Loring and Papanicolaou (1987) also decry the practice of selecting memory assessment instruments (such as the WMS subscales) based upon their primary ability to detect neuropathology, rather than on their ability to assess functional memory deficits. The need, they claim, is for clinically relevant instruments that will offer a better understanding of the nature of complex memory problems experienced by patients in real world functioning.

To get around these weaknesses in existing test batteries, many neuropsychologists have begun routinely augmenting their assessments with progressive verbal learning measures, which are more firmly theoretically grounded in cognitive psychology. Instruments such as the Rey Auditory Verbal Learning Test (AVLT) (Lezak, 1983; Rey, 1964) and the California Verbal

Learning Test (CVLT) (Delis, Kramer, Ober & Kaplan, 1983), offer clinically relevant information on several aspects of memory and learning. The more widely used AVLT consists of a 15-word list which is read to the subject, followed by an immediate recall test, establishing an immediate verbal memory span. This procedure is repeated with the same list for five trials, generating a progressive learning curve for the subject. A distractor list is then presented in the same manner, followed by a recall test for the initial list. This is thought to demonstrate level of ability to retain information despite intervening activity, as well as any tendency to contaminate the two sets of memories together. Finally, a recognition task asks the subject to identify the words from the initial list from among a larger set of 50 words, including phonemic and semantic distractors and words from the alternate list. This process is thought to distinguish problems with registration and storage from those of inefficient recall.

Initial studies of the AVLT have established its validity and clinical utility. Mungas (1983) found he could clearly discriminate different patterns of deficits in groups of amnesics, head trauma victims, attention deficit disorder patients, schizophrenics, and nonpsychotic psychiatric patients with the test. He argues that these results demonstrate the discriminant validity and specificity of the AVLT as a "relatively pure measure of new learning ability not substantially affected by attentional abnormalities, thought disorder, or nonpsychotic psychiatric manifestations" (Mungas, 1983, p. 854). Rosenberg, Ryan, and Prifitera (1984) defined groups of VA medical inpatients as having impaired or non-impaired memory functioning, based upon a comparison of their Wechsler Memory Scale MQ and Wechsler Adult Intelligence Scale Full Scale IQ. The AVLT was found to be significantly lower for the memory-impaired group. Using a similar strategy, Ryan and Geisser (1986) found that both the standard and alternate forms of the test were diagnostically valid measures, correctly classifying 75.3% of the patients in their study. Query and Megrant (1983) established age-related norms for the AVLT in a VA inpatient medical population; Wiens, McMinn, and Crosson (1988) have developed norms for healthy young job applicants, presented by age, WAIS-R FSIQ, and education.

Although there have been serious questions in the literature about the practice of developing neuropsychological tests for the primary purpose of detecting brain damage (Mapou, 1988) neuropsychologists are still commonly asked to determine if significant neurobehavioral deficits are present. Given the constraints of time and patient endurance during an often lengthy evaluation process, the ideal measure is one that offers both functional clinical relevance and an ability to discriminate between neurologic and non-neurologic subjects. Initial research suggests the AVLT may meet the basic criteria of reliability, validity, and clinical relevance, producing valuable information on a range of important memory functions. It remains to be established to what extent the AVLT can discriminate the presence or absence of brain damage. The purpose of this study is to determine the sensitivity of the AVLT in differentiating healthy controls from confirmed neurologically-impaired subjects, and to compare its accuracy with that of other measures commonly used for this purpose.

## METHOD

### Subjects

Control subjects were 50 carefully screened, paid volunteers, tested at Harborview Medical Center in Seattle, Washington. Care was taken to screen out anyone with a positive neurological history, and efforts were made to insure intelligence representative of the general population (mean FSIQ = 101.3, s.d. = 14.3), and appropriate representation by sex (54% female, 46% male). Average age was 26.0 (s.d. = 7.7 years), and the mean education level was 12.6 years (s.d. = 1.7).

The neurologically-impaired subjects consisted of a matched group of patients seen for neuropsychological evaluation at either Madigan Army Medical Center in Tacoma, Washington, or at Harborview Medical Center in Seattle. They were selected to represent a cross-section of unequivocal, medically documented neurological diagnoses: closed head injury, 18; penetrating head injury, 3; idiopathic epilepsy, 10; infectious encephalopathy, 8; brain tumor, 4; hemorrhagic lesion, 3; stroke, 1; anoxia, 2; and degenerative dementia, 1. Subjects were matched by group for sex, age, and education: the neurologic group also consisted of 54% female and 46% male subjects; mean age was 28.2 years (s.d. = 7.0 years), and mean education level was 12.6 years (s.d. = 2.1). Nonparametric comparison of the two groups revealed no significant difference on any of these demographic variables.

### Procedure

All subjects were administered the AVLT as part of a comprehensive neuropsychological evaluation. The AVLT was administered in the standard manner described by Lezak (1983, pp. 422-429). Total number of words successfully recalled was recorded for each of the five trials (I-V) with list A, the interference trial (VI) with list B, the recall for list A (trial VII), and the recognition test (trial VIII). Additional scores were calculated for the total of trials I-V, the number of words learned after the first trial (highest score minus trial I), the number of words forgotten over the interference trial (trial V minus VII), and the percentage of words forgotten (number forgotten/trial V). A count was also made of the number of intrusion errors (extraneous words not appearing on either list), and contamination errors (words produced from the wrong list).

Subjects were also given the Wechsler Adult Intelligence Scale--Revised (WAIS-R), the Wide Range Achievement Test--Revised (WRAT-R), the complete Halstead-Reitan Neuropsychological Battery, and the additional measures found by Dodrill (1978) to reliably discriminate between neurologic and control subjects: the Seashore Tonal Memory Test, Stroop Test, Name Writing, and the Wechsler Memory Scale Logical Memory and Visual Reproduction subtests. Neuropsychological measures were scored using both Halstead and Dodrill cut-off scores, and summary scores were calculated for the Halstead Impairment Index (HII) and the Dodrill Discrimination Index (DDI) (a global measure which attempts to predict the probability of brain dysfunction based upon the patient's overall test performance).



## Analysis

Initial comparison of the AVLT scores for the two groups was accomplished with nonparametric (Mann-Whitney  $U$ ) analysis. Nonparametrics were conservatively chosen because there is substantial question whether AVLT scores are normally distributed. A similar nonparametric comparison was then made of the performance of the two groups on the other neuropsychological measures. Because of the large number of variables involved, as well as a desire for clinical relevance of the findings, a required significance at the .01 level of probability was adopted. Using established cut-off scores for the Halstead and Dordrill batteries, and optimal cut-offs for the AVLT variables, clinical hit-rates were calculated for correct prediction of group membership. Finally, a stepwise multiple linear regression analysis was performed to determine whether AVLT variables might be combined with other common neuropsychological measures to improve the prediction of group membership. Because of the limited number of subjects, an effort was made to select a reasonable number of variables that might be optimally useful in this prediction. These variables included scores from the AVLT trial V and total (I-V), the Halstead Impairment Index and Dordrill Discrimination Index, WAIS-R Full Scale IQ, Wechsler Memory Scale Logical Memory and Visual Reproduction subtests, Stroop II-I, Trails B, and Finger Tapping (total).

## RESULTS

Table 1 lists the results of nonparametric (Mann-Whitney  $U$ ) comparison of the mean scores of the two groups on the different AVLT variables. The neurologic group performed significantly worse on all AVLT trials ( $p < .001$  for trials I through VII and the total (sum 1 through V);  $p < .01$  for the recognition trial). The brain-impaired group also showed less overall learning ( $p < .01$ ). There was no significant difference in the number of intrusion or contamination errors made by the two groups or the amount of forgetting between trials V and VII.

Table 2 shows the same comparison between the performance of the neurologic and control subjects on the Halstead-Reitan and Dordrill neuropsychological batteries. In this sample, only the Seashore Rhythm Test, WMS Visual Reproduction subtest, and the total errors on the Aphasia Screening Test failed to significantly discriminate between the two groups. The TPT Memory and Seashore Tonal Memory measures successfully discriminated at the  $p < .01$  level; all other measures were significant at the  $p < .001$  level or better. The most effective measure was the Dordrill Discrimination Index ( $U = 351.0$ ,  $p < .0001$ ), followed by the Halstead Impairment Index ( $U = 452.5$ ,  $p < .0001$ ).

Table 3 shows the percentage of subjects whose group membership could be correctly predicted using established cut-off scores. For the AVLT, trial V and the total (I-V) scores were found to best discriminate between the two groups; optimal cut-off scores were calculated for trial V as 12/13 (12 or below, outside; 13 or above, inside), and for the total score as 50/51 (50 or below, outside; 51 or above, inside). In this sample population, the AVLT trial V successfully identified group membership better than any other measure except the Dordrill Discrimination Index ( $U = 457.5$ ,  $p < .0001$ ).

Regression analysis indicates that the AVLT trial V not only discriminates effectively between the two groups, but significantly contributes to the effectiveness of the Dodrill Discrimination Index (DDI):  
 $y = .98 + 1.40(DDI) + .07 (WMS \text{ Visual Reproduction}) - .05 (AVLT \text{ trial V}).$

## DISCUSSION

This study indicates that the Rey Auditory Verbal Learning Test can be an effective instrument for the discrimination of normal from mixed brain impaired subjects. As an independent measure, it established its clinical efficacy by correctly identifying 74% of the sample population (using the AVLT trial V score), a hit rate better than all but the overall Dodrill Discrimination Index. Specifically, in this sample it discriminated between control subjects and brain impaired patients better than any individual measure in either the Halstead-Reitan or Dodrill batteries, and better than the Halstead Impairment Index; only the summary Dodrill Discrimination Index was more accurate. Although such findings must now be validated with an independent sample of subjects, it is suggested that the AVLT is sensitive to impairment from a broad range of neurological disorders. As a neuropsychological measure, it may thus have utility in determining the presence of neurobehavioral dysfunction as well as in understanding the nature of any memory deficits.

Most frequently the effectiveness of the AVLT has been compared to the WMS Logical Memory subtest as a general screening measure for memory deficits. Ryan, Rosenberg, and Mittenberg (1984) used factor analysis to assess the relationships between the AVLT and other neuropsychological measures. They derived four factors which accounted for 75.4% of the variance. Factor I consisted of the AVLT and the WMS Paired Associates and Logical Memory subtests; they interpreted this as a verbal learning and memory factor. The AVLT did not appreciably weight on any of the other three factors, which were described as nonverbal intelligence and perceptual organization ability (Factor II), verbal intelligence (Factor III), and attention-concentration (Factor IV). However, in the present study the AVLT trial V score was able to add to the ability of the DDI to correctly predict group membership. This suggests some additional neurobehavioral component not adequately assessed by the WMS Logical Memory subtest or by other instruments in the Halstead-Reitan or Dodrill neuropsychological batteries.

McCarthy and Warrington (1987) studied three aphasic patients, and demonstrated a double dissociation for short-term memory for sentences and simple lists. They conclude that at least two distinct memory systems can be demonstrated, one a passive phonological register involved in the recall of lists, and the other a more active, integrated, and anticipatory system involved in the recall of more complex, organized information. Successful progressive learning performance on the AVLT may require efficient functioning of both of these short-term memory systems, whereas the Logical Memory subtest may be much more heavily weighted toward the latter.

Previous research has indicated significant differences between different clinical groups on a variety of AVLT measures, consistent with their presenting amnesic syndromes (Mungas, 1983). However, for discriminating controls from mixed neurologically-impaired patients, the best AVLT measures in the present study involved those reflecting cumulative learning over the first five trials: the trial V and total (I-V) scores. These scores may be most sensitive because

they reflect the combined functioning of the widest cross-section of neurobehavioral mechanisms, including arousal, motivation, attention/concentration, auditory perception, verbal comprehension, immediate verbal memory span, short term verbal memory storage and retrieval, and progressive learning abilities. The probability is therefore high that any randomly selected brain dysfunction will include impairment in one or more of the abilities contributing to overall AVLT performance. Derived indices, such as rates of learning and forgetting, or frequency of intrusion or contamination errors, are probably less effective for such general discrimination tasks, but may be more useful clinically.

Although these results need to be independently validated with a different subject population, this study suggests that a serial verbal learning task may be an important aspect of neurobehavioral assessment. Either by itself or as part of a battery of neuropsychological instruments, the AVLT appears to effectively discriminate between neurologic and control subjects. The AVLT also seems to measure a dimension of cognitive dysfunction not thoroughly assessed by other instruments in the Halstead-Reitan or DODRILL neuropsychological batteries. Finally, from initial research in the literature, the AVLT appears to offer the practical advantage of a range of theoretically based and clinically validated indices of different aspects of memory, which may relate more effectively to a patient's real world functioning. These qualities may be most useful for a neuropsychological battery selected both for its ability to discriminate the presence of brain-impairment, and to assess the functional nature of any deficits.

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TABLE 1

MANN-WHITNEY U COMPARISON OF CONTROL AND NEUROLOGIC SUBJECT  
PERFORMANCE ON THE REY AUDITORY VERBAL LEARNING TEST

Measure	Control (n=50)		Neurologic (n=50)		U Statistic
	Mean	S.D.	Mean	S.D.	
Trial I	7.44	2.24	5.82	1.99	762.0 **
Trial II	10.48	2.44	8.26	2.59	665.0 **
Trial III	11.96	2.22	9.56	2.72	613.0 **
Trial IV	12.86	1.94	10.30	2.76	547.0 **
Trial V	13.38	1.73	10.72	2.58	457.5 **
Trial VI	6.90	2.51	4.80	1.90	653.5 **
Trial VII	11.70	2.97	8.76	3.57	646.0 **
Trial VIII	13.82	1.79	12.16	2.76	823.0 *
Total (I-V)	56.12	8.69	44.66	11.42	532.5 **
Learning	6.32	1.92	5.34	1.96	838.0 *
Forgetting	1.68	2.05	1.96	2.07	1143.0 NS
% Forgetting	.14	.17	.21	.24	1025.0 NS
Intrusions	2.96	3.15	4.84	4.84	991.5 NS
Contaminations	.36	.85	1.24	1.81	877.5 NS

NS not significant

\*  $p < .01$

\*\*  $p < .001$

TABLE 2

MANN-WHITNEY U COMPARISON OF CONTROL AND NEUROLOGIC SUBJECT  
PERFORMANCE ON NEUROPSYCHOLOGICAL MEASURES

Measure	Control (n=50)		Neurologic (n=50)		U Statistic
	Mean	S.D.	Mean	S.D.	
Category	28.48	18.13	46.02	22.75	656.5 **
TPT Total Time	12.49	6.03	18.70	9.36	628.5 **
TPT Memory	7.92	1.21	7.02	1.72	860.0 *
TPT Localization	5.34	2.58	3.00	2.24	627.0 **
Seashore Rhythm	26.92	2.28	24.94	4.60	997.0 NS
Speech-sounds Perception	3.84	2.63	8.22	7.24	545.0 **
Finger Tapping, Dominant	51.10	5.14	45.40	7.42	661.5 **
Halstead Impairment Index	.21	.20	.49	.25	452.5 **
Stroop I (sec)	78.54	12.79	98.44	22.71	490.5 **
Stroop II-I (sec)	112.70	36.52	170.80	89.18	645.0 **
WMS Logical Memory	22.48	6.96	17.44	6.48	738.5 **
WMS Visual Reproduction	10.70	2.02	10.04	3.00	1126.0
NS Perceptual Exam (total)	2.72	2.56	9.14	10.14	658.5 **
Name Writing (total let/sec)	1.17	.31	.94	.32	747.0 **
Seashore Tonal Memory	23.82	5.54	20.32	6.10	823.0 *
Finger Tapping, Total	97.82	10.16	86.56	12.89	618.5 **
Trail Making, Part B	53.80	21.78	93.64	69.54	474.0 **
Aphasia Screening Errors	1.44	1.80	2.26	2.42	927.0 NS
Dodrill Discrimination Index	.20	.16	.48	.21	351.0 **

NS not significant

\*  $p < .01$ \*\*  $p < .001$

TABLE 3

PERCENTAGE HIT-RATE FOR CORRECT IDENTIFICATION OF GROUP MEMBERSHIP:  
CONTROLS VERSUS NEUROLOGIC PATIENTS

Measure	Control (n=50)	Neurologic (n=50)	Total (n=100)
Category	90	40	65
TPT Total Time	84	54	69
TPT Memory	96	20	58
TPT Localization	64	72	68
Seashore Rhythm	72	40	65
Speech-sounds Perception	94	34	64
Finger Tapping, Dominant	52	80	66
Halstead Impairment Index	92	46	69
Stroop I (sec)	82	52	67
Stroop II-I (sec)	84	56	70
WMS Logical Memory	76	66	71
WMS Visual Reproduction	70	40	55
Perceptual Exam (total)	94	48	71
Name Writing (total let/sec)	92	44	68
Category	90	36	63
TPT Total Time	88	48	68
TPT Memory	68	50	59
TPT Localization	76	62	69
Seashore Rhythm	72	40	56
Seashore Tonal Memory	70	50	60
Finger Tapping Total	40	84	62
Trail Making, Part B	92	46	69
Aphasia Screening Errors	76	34	55
Dodrill Discrimination Index	90	68	79
AVLT Total (I-V)	74	68	71
AVLT Trial V	78	70	74

## A COMPARISON OF THE REY AUDITORY-VERBAL LEARNING TEST WITH THE CALIFORNIA VERBAL LEARNING TEST

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The Rey Auditory-Verbal Learning Test has been in standard use as a neuropsychological instrument to assess memory functions (Lezak, 1983). It has proven adaptable to various clinical populations in the assessment of learning, recognition, and recall (Query and Megran, 1983). However, it is limited in assessment of delayed memory and appears to measure global achievement. The California Verbal Learning Test (Delis, Kramer, Kaplan and Ober, 1987) is a recent addition to memory instruments which contains a delayed memory trial and purports to measure strategies, processes, and errors rather than global achievement assessed by prior instruments (Delis, Kramer, Freeland, and Kaplan, 1988) such as the AVLT. Performances on the Rey Auditory-Verbal Learning Test in a group of 36 unselected neuropsychological patients are analyzed on relative difficulty of the two tests and progression of learning across trials. Discussion will compare and contrast the two tests as comparable measures of verbal learning.

The capacity for memory and learning is central to intellectual functioning (Lezak, 1983) and valid measurement of memory is essential for rehabilitation of brain-impaired persons (Russell, 1981). Consequently, the assessment of verbal memory is a major component of a thorough neuropsychological evaluation. A long used procedure in memory assessment has involved the free recall of lists of words (Cermack, 1972), with the Rey Auditory-Verbal Learning Test (AVLT) (Rey, 1964; Taylor, 1959; Lezak, 1983) becoming one of the more widely employed instruments in neuropsychological assessment.

The AVLT consists of 15 apparently unrelated words which are orally presented at a standard rate to the examinee. Upon completion of the list, the examinee is asked to recall as many words as possible without regard to order of recall. This procedure is repeated for a total of five trials. Following the fifth recall trial an interference list of 15 additional words is orally presented and again the examinee is asked to recall as many as possible. A final recall of the first list completes the free-recall portion. The administration is completed with a recognition trial where the examinee is asked to state "yes" or "no" to the presence of words from the first list (Lezak, 1983). At least three recognition procedures are found in the literature. Rey (1964) and Lezak (1983) employed a story format where the examinee was to stop the examiner when a target word--a word from the first list--was heard. Chirelli, Haaland, Ellis, and Rhodes (1985) used a written matrix format composed of words from both lists plus phonemic and semantic foils. Lezak (1983) asks the examinee to identify words from the first list from 50 words, presented either visually or orally, comprised from both lists plus distractor words.



The AVLT has been used with varied populations (Rosenberg, Ryan, and Prifitera, 1984; Mungas, 1983; Query and Megrn, 1983; Query and Megrn 1984; Lezak, 1983; and Hermann, Wyler, Rickey, and Rea, 1987) and shown itself to be an effective tool in measurement of learning and memory (Rosenberg, et. al., 1984).

Criticism of the AVLT has primarily centered on the lack of normative data (Query and Megrn, 1983; Kaplan, 1988) and the fact that the normative data which does exist was based on small samples of other than normal populations (Wiens, Crossen and McMinn, 1988). Wiens et. al., (1988) have recently published norms for healthy young adults but valid norms for healthy elderly persons remain unpublished. An additional criticism, though not directly stated, concerns the use of global measures of memory--the number of words remembered rather than which words or how the examinee processed the list (Delis, Kramer, Freeland and Kaplan, 1988).

To respond to criticisms of the use of global measures, Delis, Kramer, Kaplan, and Ober (1987) developed the California Verbal Learning Test (CVLT). The CVLT was patterned after the AVLT but utilizes 16 words taken from four semantic categories (Delis et al., 1987). Procedures for administration are the same as for the AVLT, except the words are presented as a shopping list until the recall trial following the interference trial. This recall of the first list contains a free recall trial, like the AVLT, followed by a "cued-recall" trial where, for the first time, the examinee is asked to place memories into specific categories. A second difference is the presence of a delayed recall portion, presented with both free and cued recall trials. Lezak (1983) makes reference to a delayed trial on the AVLT but no norms are found. A major development of the CVLT concerns a plethora of testing and scoring features to include measures of semantic clustering, serial-order clustering, pooled serial-position recall data, learning across trials, recall consistency across trials, proactive interference, retroactive interference, cued recall, long-delay testing, recall errors and recognition (Delis et al., 1987).

While the AVLT and CVLT appear comparable this relationship has not been reported in the literature. Different learning strategies may be utilized in memory of unrelated words and words with a categorical relationship. The present study was designed to test this relationship.

## METHOD

### Subjects

Thirty-six subjects were evaluated at the Neuropsychology Laboratory, Letterman Army Medical Center, during the period January - March 1988. The Neuropsychology Laboratory services active duty military from all branches of the Armed Forces, their dependents, retired military members, and their dependents. All patients were referred for evaluation by either Neurology, Neurosurgery or Psychiatry Services. Psychiatric patients with psychotic disorders and those with clinically significant depression were excluded from the study as were those with serious acute neurological impairment. Each subject served as his/her own control. Three groups were identified: Dementia, Traumatic Brain Injury, and Psychiatric.

## Procedure

All subjects were administered a standard neuropsychological evaluation including several instruments to assess memory - AVLT, CVLT, Wechsler Memory Scale (Russell Administration) and Digit Span. Memory instruments were scattered throughout the evaluation and presented in alternating order to reduce confounding learning effects. Normally, either the AVLT or CVLT was administered in the morning session and the other in the afternoon session or the next day. Recognition memory was assessed for both the AVLT and CVLT via the orally presented list of 50 words (Lezak, 1983).

## RESULTS

Means for each trial on each test were obtained for the entire sample and for each group (Table 1) and are graphically presented in Figures 1-4. These results were compared for both linear and quadratic trends. A test of quality of trends in the two tests yielded the following:

linear:  $F(1,35) = 4.808, p < .05$   
quadratic:  $F(1,35) = 2.657, p > .10$

These results show that the linear components of the learning curves of the two tests are reliably different but that the quadratic (curvilinear) components do not differ significantly. A test of the components of trials produced the following:

linear:  $F(1,35) = 163.1114, p < .0001$   
quadratic:  $F(1,35) = 16.6382, p < .001$

These results show both a linear and quadratic component that is highly reliable. A comparison of the linear and quadratic components revealed the linear component to be greater than the quadratic.  $F(1,35) = 129.0352, p < .0001$ .

A repeated measures (test X trials) MANOVA was performed with trials as the repeated measure. A significant test effect,  $F(1,35) = 7.20, p < .01$ , shows the AVLT and CVLT produce different memory scores with the AVLT producing the lower of the two. As expected a significant main effect was found for trials. The test X trials interaction effect was not significant,  $F(1,35) = 1.96, p > .10$ .

An ANOVA to test effect between groups revealed a significant T1 effect.

$F(1,2) = 6.63, p < .004$

This shows that each group progressed at different rates of learning over trials. An ANOVA as a test of significance for T2 using unique sums of squares revealed a difference between the two instruments.

$F(1,2) = 12.48, p < .001$

## DISCUSSION

The results of this study indicate that the AVLT and the CVLT are not comparable instruments. The learning curves differ significantly across all trials for both instruments, and a group effect is supported for all three experimental groups. The absence of an interaction effect adds greater support for a distinct difference between the AVLT and CVLT. The results of this study support that different measures of memory and learning are being assessed by these two apparently similar instruments. The major effect of this finding may result in neuropsychologists questioning a simple exchange of the CVLT for the AVLT in routine assessment of memory functions.

Of interest is the apparent difficulty level of the CVLT. It appears significantly easier than the AVLT, perhaps a consequence of the categorical component, and may be more practical for more impaired populations or for populations where positive reinforcement would be gained from recall of more words from the list. The AVLT might be more usable with a more educated population or where straight memory of words without the advantage of categories was desired.

No attempt was made in this study to assess the qualitative difference between these two instruments. Both appear to be effective measures of memory, but they do not appear to measure the same thing. Procedural problems, however, reduce the robustness of these findings and should be considered in any replication study. The most critical problem concerns the small sample size. Greater numbers of subjects are needed in each group to increase the reliability of these findings. The second problem concerns the absence of a normal group, especially for the more elderly populations. From this study, it is not possible to tell if performance on these instruments in the dementia group was due to dementia or simply to aging.

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TABLE 1

## MEAN AND STANDARD DEVIATIONS: AVLT AND CVLT

	I		II		III		IV		V	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
All Subjects										
AVLT	5.056	2.267	7.028	2.077	8.167	2.147	9.028	2.602	9.722	2.953
CVLT	6.056	1.756	8.278	2.711	9.417	3.138	9.639	3.279	9.889	3.267
TBI										
AVLT	5.7	1.636	7.7	1.494	8.4	2.633	9.5	2.014	10.8	1.751
CVLT	6.1	2.283	9.2	2.394	10.1	2.807	11.1	2.331	11.3	2.751
DEMENTIA										
AVLT	4.125	2.277	6.0	2.221	6.938	2.144	7.625	2.754	7.75	3.022
CVLT	5.25	1.390	7.0	2.338	7.625	2.680	7.688	3.135	8.0	2.921
PSYCHIATRIC										
AVLT	5.587	2.734	7.0	1.291	8.0	2.380	9.857	2.193	10.143	2.193
CVLT	6.857	1.215	9.857	3.078	11.143	3.237	11.429	3.690	12.143	3.388

Figure 1

## The CVLT & RAVLT: Learning Curves

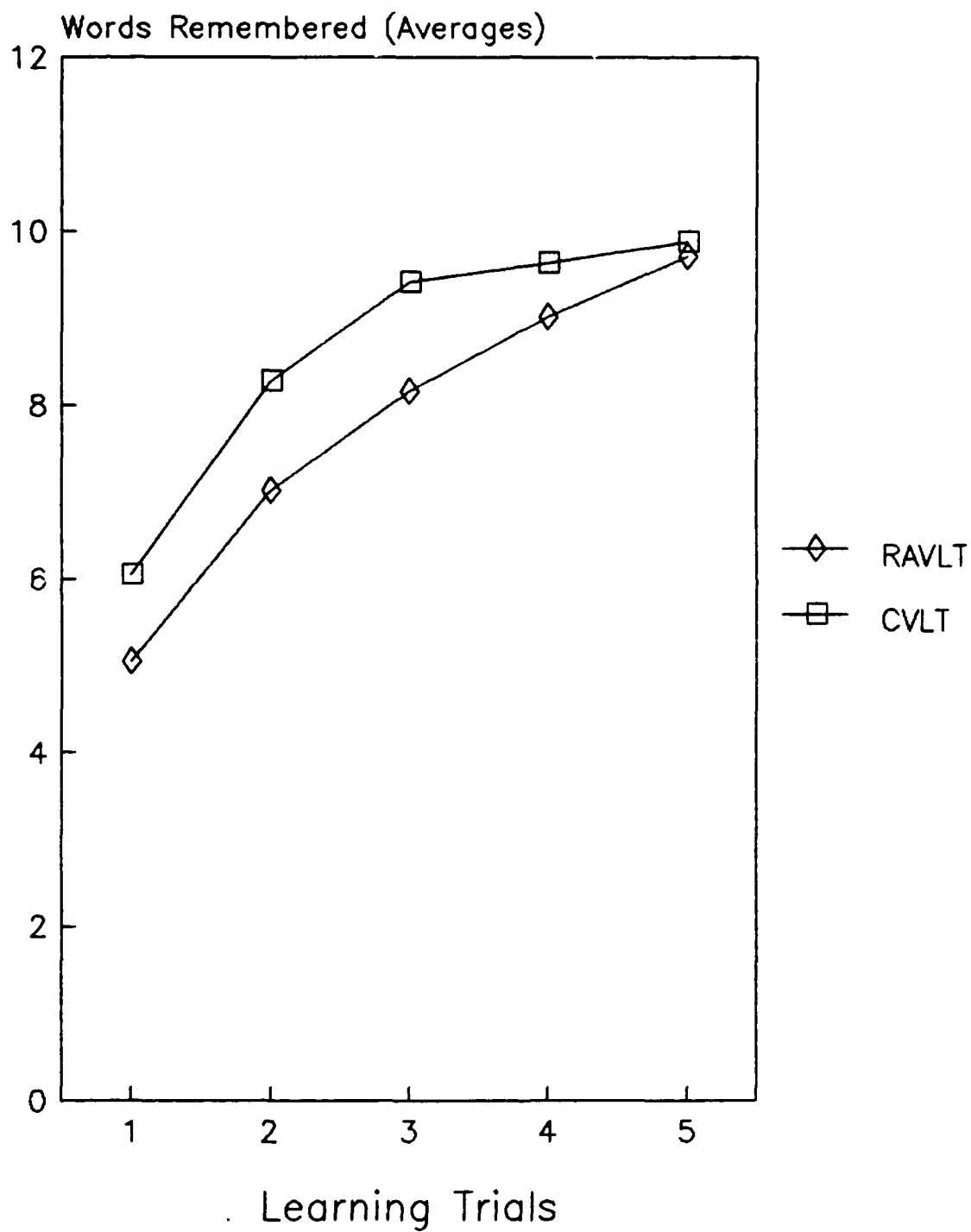


Figure 2

# The CVLT & AVLT: Learning Curves Dementia

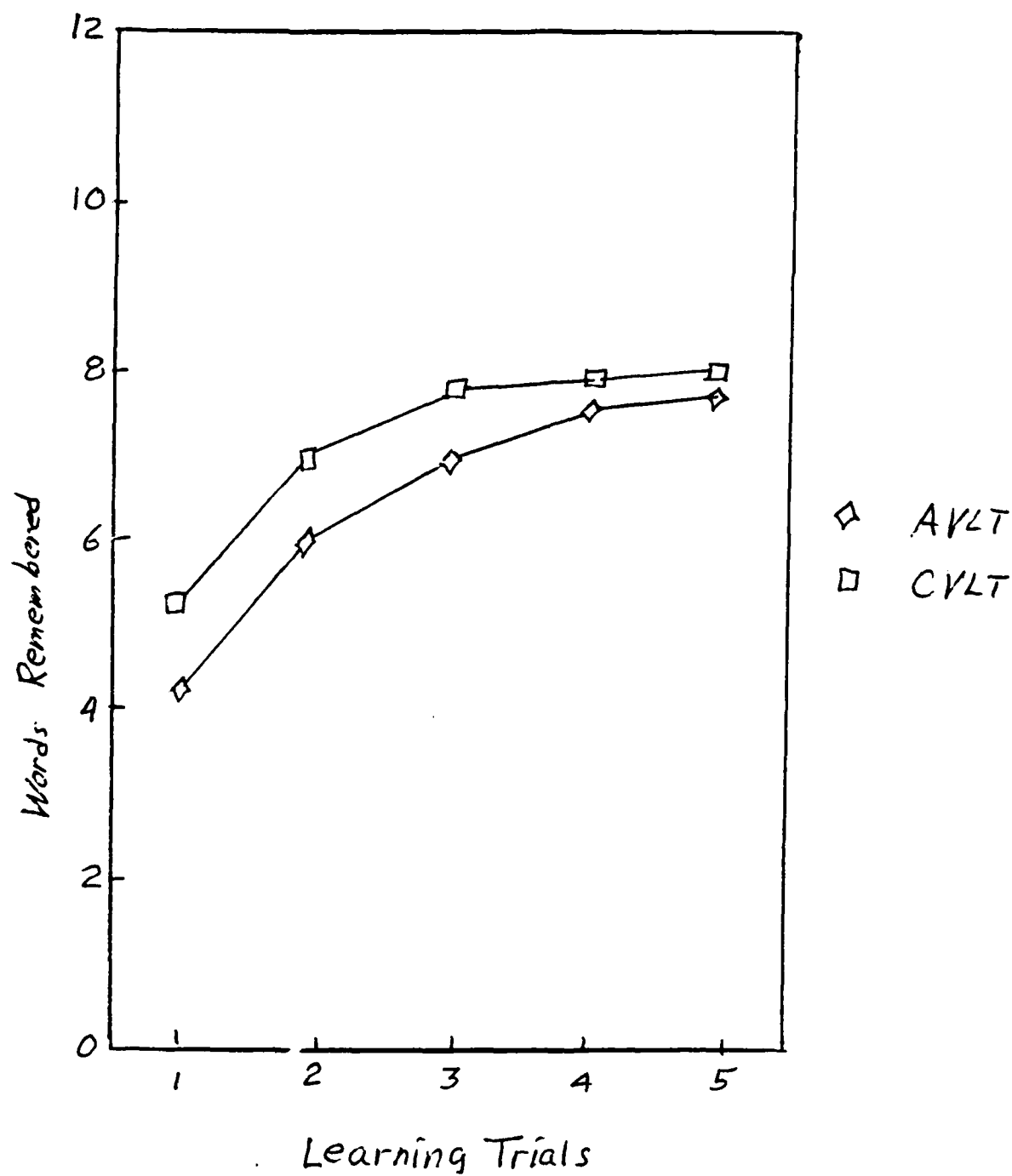


Figure 3

# The CVLT & AVLT: Learning Curves TBI

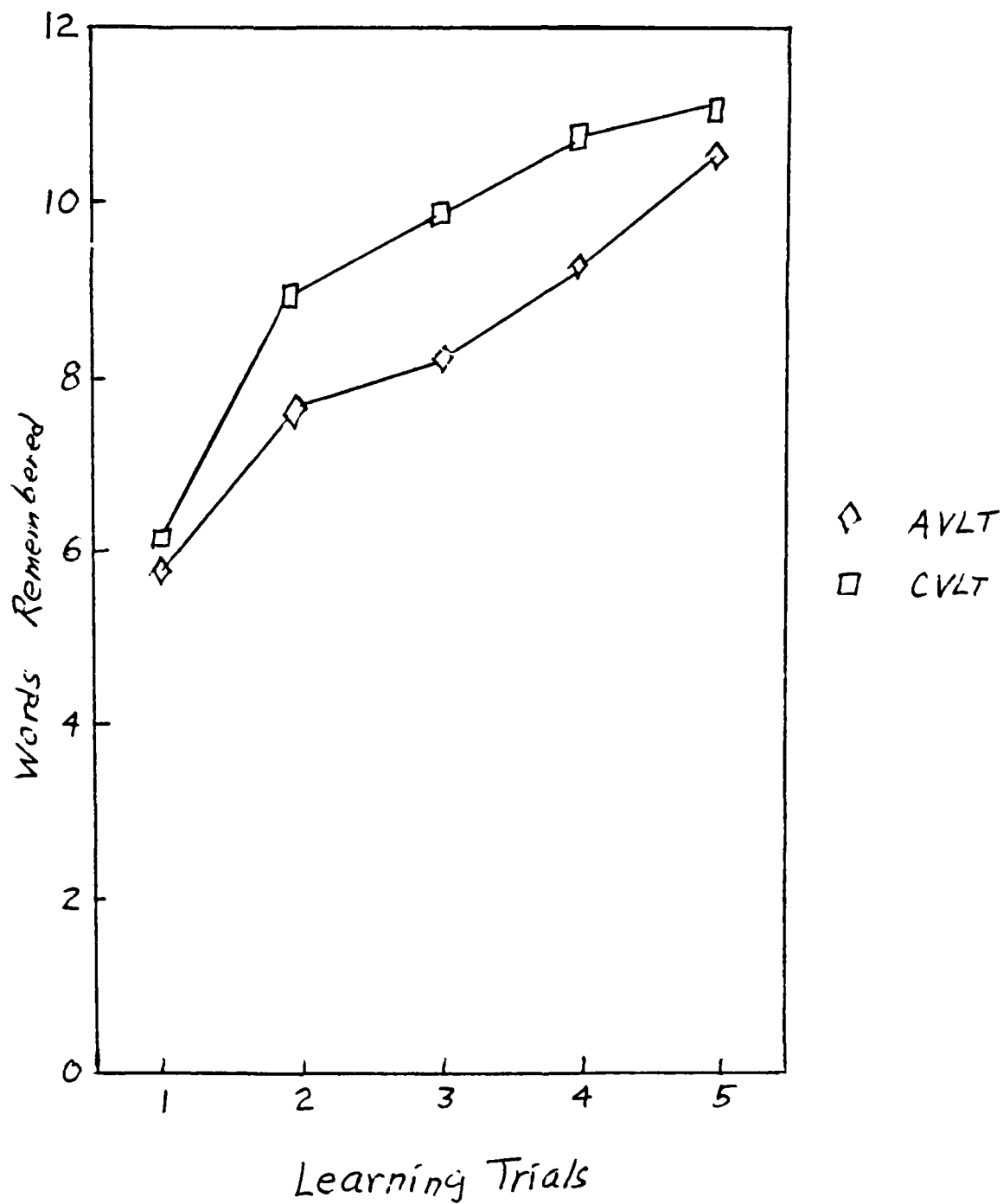
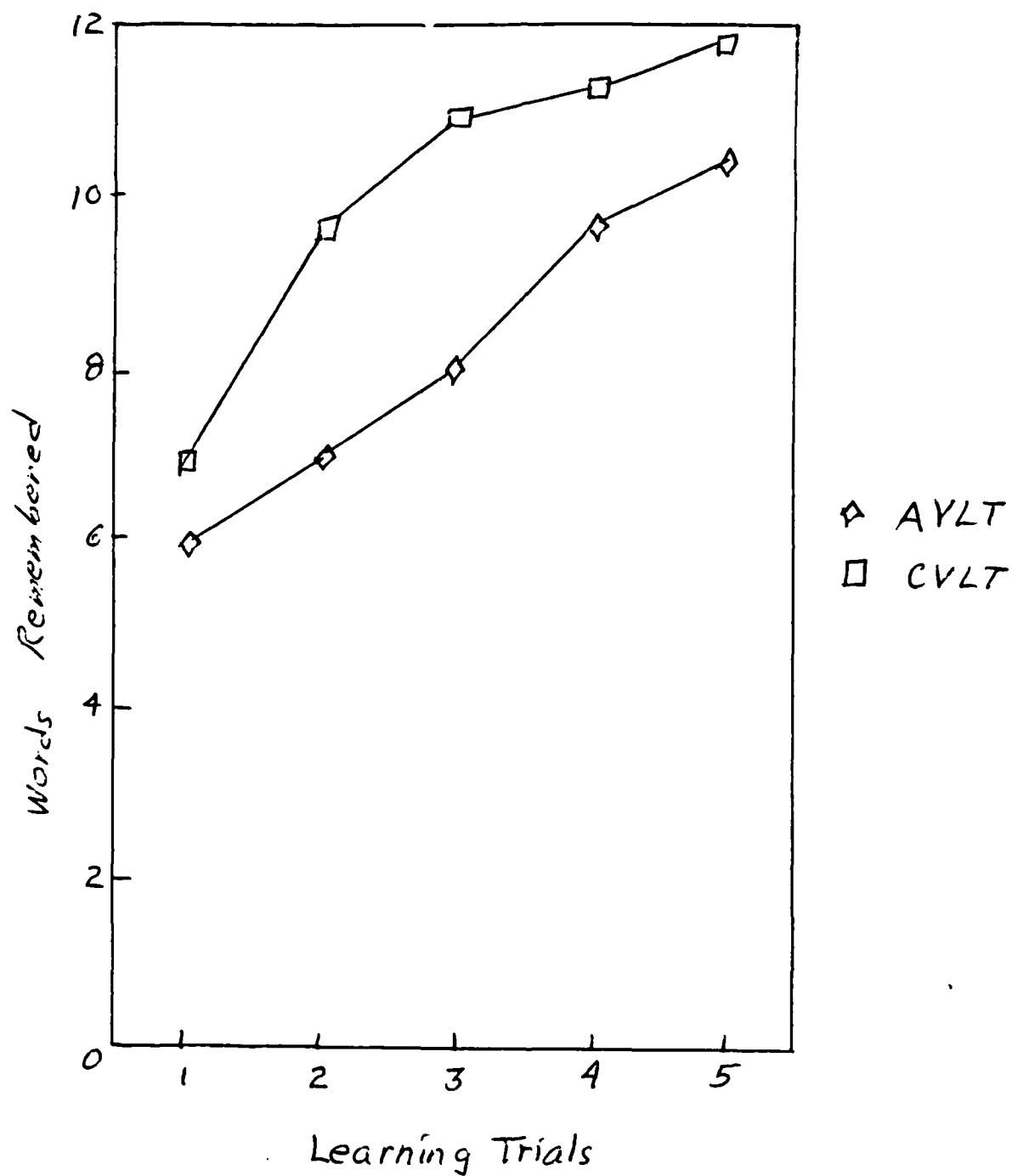




Figure 4

# The CVLT & AVL T: Learning Curves PSYCHIATRIC



## THE CLINICAL USE OF THE MMPI WITH NEUROLOGIC PATIENTS: A NEW PERSPECTIVE

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This paper represents a discussion of problems seen with the traditional use of the MMPI in evaluating neurologic patients and offers an alternative approach to understanding neurologic patients' responses on the MMPI. Previous research is reviewed and commonly held assumptions are challenged. Eighty-five MMPI items are identified that can be used to better understand the responses of neurologic patients and their MMPI scale elevations. Three cases are presented to illustrate this approach, and clinical guidelines for using the MMPI with neurologic patients are presented.

During my clinical neuropsychology postdoctoral fellowship, my mentor, Dr. Raymond Parker, conducted the interpretation seminar every Friday morning. In this seminar, I learned how to interpret the test results of neurologic patients. In an early seminar, we reviewed a test protocol with the MMPI scales highly elevated. Pointing to the MMPI, I suggested a psychiatric disorder as an explanation for the patient's problems. Dr. Parker quickly commented, "These neurologic patients do funny things on the MMPI. You can't interpret them the same way you do other patients!" He was very serious, emphasizing the uniqueness of this patient population.

This caution lingered in my mind. I appreciated his comment more as my clinical experience with neurologic patients increased. My observations confirmed his. Neurologic patients "do funny things on the MMPI." Eventually, my curiosity to know how things work overcame me and forced an exploration of the question, "Why do neurologic patients do funny things on the MMPI?" This paper presents an explanation with the purpose of motivating better clinical results and future research. The hope is for a better understanding of patients experiencing the unfortunate changes in adaptation which result from neurologic disorders.

### WHY DO WE USE THE MMPI?

Neuropsychologists commonly administer the MMPI to neurologic patients as part of a neuropsychological test battery. Why this is done is not entirely clear. Perhaps, we do it out of habit, assuming the MMPI will help us understand emotions and personality, aid with differential diagnosis, and help understand the patient's symptoms and concerns. Are these assumptions merited? These assumptions will be explored, new ideas presented and guidelines offered. We begin by exploring previous MMPI research with neurologic patients.

## WHAT DO WE KNOW?

There is a large body of research using the MMPI with neurologic patients. These MMPI studies with neurologic patients can be placed into four major categories: (a) General MMPI profiles of heterogeneous neurologic patients; (b) MMPI profiles of specific neurologic disorders; (c) discrimination between the MMPI profiles of neurologic and psychiatric groups and with MMPI special scales or items; and (d) discrimination between the MMPI profiles or scales of patients with lateralized or localized lesions. MacI (1979) has written the only comprehensive review of this literature. We will review several representative studies and address the salient features.

Figure 1 is the group MMPI profile of 90 verified heterogeneous neurologic patients studied by Willcockson (1985). This profile is representative of group profiles from mixed neurologic patients. Note the elevations on scales 1, 2, 3, and 8. All of these scales have t-scores of 70 or greater. This is a consistent finding with the group profiles of neurologic patients.

Many neuropathologies elevate on scales 1, 2, 3, and 8. Figure 2 is the group profile of 33 multiple sclerosis patients (Canter, 1951). Note the high elevations on the 1, 2, and 3 scales. This is a common finding with multiple sclerosis. Figure 3 is the group profile of a head injury group (Black, 1974). Again, note the elevations on 1, 2, and 8.

Attempts to differentiate clearly lateralized brain damaged groups by use of the MMPI have failed. Figure 4 is representative of MMPI research using patients with lateralized lesions and attempting to discriminate the two groups (Dikmen & Reitan, 1974). Note the similarity of the groups. Also notice the relative elevations on the 1, 2, 3, 7, and 8 scales. Figure 5 is a more recent profile of left and right hemisphere damaged patients with a larger population, N = 186 (Moehle & Fitzhugh-Bell, 1988). Again, the two groups are similar and have relatively the same elevations on the 1, 2, 3, 7 and 8 scales.

There have been several attempts to develop MMPI scales to differentiate neurologic from psychiatric patients. In general, the development of MMPI scales to differentiate brain damaged from psychiatric groups has not been successful. Willcockson (1986) used well defined neurologic and psychiatric groups to research 21 MMPI indices and their ability to discriminate between brain impaired and psychiatric groups. Results were not encouraging. While classification between functional psychiatric and brain damaged groups was in the 70-74% ranges, correct classification of brain damage patients was low at 49-62%. The clinical usefulness of these scales is extremely limited when making decisions about individuals.

Efforts to discriminate anterior from posterior lesion patients have been mixed in their results. However, discrimination between the MMPI profiles of anterior versus posterior lesion patient group has been more successful than trying to discriminate lateralized groups. Figure 6 compares the MMPI profiles of frontal and posterior patients (Anderson & Hanvik, 1956). Statistical differences are seen on several scales, but the most obvious finding is the similarity of the profiles with notable elevations on the 1, 2, 3, 7, and 8 scales.

In summary, a review of literature regarding the MMPI and neurologic patients indicates the following: (a) Neurologic patient groups generally

elevate on the 1, 2, 3, 7, and 8 scales; (b) discrimination between neurologic and psychiatric groups is not adequate for reliable clinical use; (c) the MMPI does not discriminate reliably between left and right hemisphere brain damaged patients; and (d) the MMPI demonstrates some ability to discriminate between anterior and posterior lesion patients. The reasons for these findings has not been thoroughly researched.

## PROBLEMS

Mack (1979) raises some important issues regarding the use of the MMPI with neurologic patients:

The most important clinical question concerning the use of the MMPI with neurological patients has been raised by several investigators... To what extent can we safely extend the clinical implications of profile configurations derived from the study of patients with psychiatric problems to a neurological population? The few studies that have directly considered this issue would lead us to believe that the MMPI, interpreted in the usual fashion, does provide relevant and valid information regarding personality adjustment that can be used in the diagnosis and treatment of the neurologically impaired, but this issue has not been actively studied. In particular, more information is needed regarding the behavioral correlates of various profile types within neurological settings. Because of the predominance of elevations on the Hs, D, Hy, Pt, and Sc scales, it may be that more refined profile types reflecting behavioral homogeneity within the neurological setting will need to be identified before the utility of the MMPI in this regard can be fully determined. There would appear to be little justification for the proliferation of special research scales for differential diagnosis, when the need for an examination of the clinical meaning of information we now possess is so great. (Page 69)

These issues raise questions regarding the clinical use of the MMPI with neurologic patients: (a) Why do neurologic patients as a group elevate on scales 1, 2, 3, 7, and 8 even when they have no history of psychiatric disorders? (b) should these elevations be interpreted in the same manner as interpretations for psychiatric patients? (c) are neurologic patients as a group neurotic? (d) why can't the MMPI reliably differentiate neurologic patients from psychiatric patients? (e) why won't the MMPI differentiate between lateralized lesion patient groups? To address these questions, we must look more closely at the problems underlying assumptions made about the MMPI.

The MMPI is 566 questions which the patient must answer as true or false. The questions are endorsed or discarded according to the patient's perception of applicability to their situation or symptoms. Simply stated, the MMPI is a patient's self-reported symptoms and insights constricted and limited by the nature of the questions. The MMPI process sums and catalogs into item groups the patient's responses to the questions. The clinician then forms an opinion regarding the meaning of the grouped items or scale elevations. This opinion is often made without a consideration of the individual items endorsed by the patient. Various assumptions are made regarding the meaning of scale elevations. A body of actuarial research supporting the meaning of scale elevations is assumed. While this body of information may exist for psychiatric or nonmedical patients, unfortunately, there are no research studies validating the meaning of scale elevations with neurologic patients.

One implicit assumption made by many clinicians studying the neurologic patient is the assumption that the MMPI is measuring emotional factors. This assumption is poorly conceived. Emotions are private internal psychophysiological states manifested externally through verbal and nonverbal behaviors. Inferences regarding a person's emotional state are made by observing these external verbal and nonverbal manifestations. These states are not measured directly. Clinicians make inferences regarding a person's emotions from multiple data sources: the self-report of the patient, reports of significant others, history, direct observations and psychological tests. The methods vary in their ability to be sensitive to the dynamic qualities of emotional states. The MMPI is a self-report of the patient's perceived problems or symptoms, and does not directly measure emotional states. Actually, a patient responding to questions on the MMPI might be distraught and crying throughout the entire administration of the test and nothing on the MMPI would necessarily indicate this agitated emotional state! The structured questions limit the patient's opportunity to express and demonstrate emotions. Interviewing provides more opportunities for the patients to express themselves. More verbal and nonverbal behaviors can be manifested. Interviews allow the clinician to simultaneously observe and analyze the dynamic qualities of emotional expression. Whereas MMPI scale scores are static, direct observations are dynamic. A photograph or video would reveal more about the patient's emotional state than a static MMPI. The inference that the MMPI is measuring emotions has never been validated and appears conceptually invalid.

A second conceptual problem is the belief that the MMPI measures emotional factors, and the other neuropsychological tests measure brain factors. This assumption separates emotions from brain functions. Obviously, emotions do not exist independent of the brain. Emotions separate from the brain implies a mind-body dualism not supported by neuroscience. Emotions are always the joint product of brain mechanisms, situations, and conditioned habits interacting in some complex manner (Schaefer, Brown & Schmidt, 1985). If we assumed the MMPI was measuring emotions, a questionable assumption as previously discussed, we still could not conclude that the MMPI is separate from brain sensitive tests since emotions always have a biological component involving brain mechanisms. Emotions are not independent of brain functions and brain diseases.

A third conceptual problem is viewing the MMPI scale elevations of neurological patients as equivalent to the MMPI scale elevations of psychiatric patients. Different persons with different disorders will elevate on the scales for different reasons. For example, patients with medical diseases may elevate on the Hy or 1 scale because they are having bona fide medical symptoms, whereas patients with somatoform disorders may elevate on the same scale because of imaginary symptoms. The problem of scales elevating for different reasons with different medical conditions has been previously noted (Lezak, 1983; Lezak & Glaudin, 1969). This fact makes it inappropriate to use the same interpretation for an MMPI scale elevation irrespective of the patient population.

A fourth conceptual error is the assumption that the MMPI can differentiate neurologic from psychiatric patients. Psychiatric disorders can have neurobehavioral symptoms with biological causes. The attempt to differentiate these two patient groups is based on outdated concepts of organic versus functional causes. Human behavior and behavioral problems are better conceptualized as an interaction of historical, environmental and biological

factors. Both psychiatric and neurologic disorders can manifest neurobehavioral symptoms. Hoping the MMPI will differentiate between neurologic and psychiatric groups is doomed to disappointment because such a hope is based upon a false dichotomy and demands of the MMPI an impossibility.

The MMPI does not diagnose. Clinicians form diagnoses based upon all the information available. Psychiatric and neurologic syndromes are complex. Both require a comprehensive evaluation approach to accurately arrive at a diagnosis. Neuropsychologists avoid forming diagnoses of brain dysfunction from single tests. Clinical psychologists also avoid using single tests to form psychiatric diagnoses because psychiatric disorders are complex and require a comprehensive evaluation approach which uses multiple data sources. They do not rely solely on the MMPI. Unfortunately, neuropsychologists often draw conclusions of an emotional or personality problem on the basis of a single measure--the MMPI.

The errors associated with these assumptions bring into question the traditional clinical use and interpretation of the MMPI with neurologic patients.

### C.N.S. ITEMS

Why a particular patient elevates on an MMPI scale is best understood by recognizing the nature of MMPI questions and which questions are endorsed by the patient. To understand why neurologic patients elevate on various scales, we need to consider their symptoms and how the MMPI might be sensitive to these symptoms. To better understand the MMPI self-report of neurologic patients and previous MMPI research, we will look at the MMPI items endorsed by these patients.

Neurologic patients will have a variety of neurobehavioral symptoms involving arousal/alertness; attention/concentration; motor; sensory; executive; memory; language; visual/spatial; higher intellectual; and emotion/personality functions, depending upon the type of neuropathology and geographical areas of the brain involved.

Based on a clinical understanding of the neurobehavioral problems associated with neuropathologies, a logical keying approach was used to identify 85 MMPI items which are potentially endorsed by patients with a neurologic disorder even though they have no psychiatric history or disorder.

The 85 items are called the Cripe Neurologic Symptom (C.N.S.) items. The items are not considered a psychometric scale. They are a collection of heterogeneous items potentially endorsed by neurologic patients. They can be considered a group of critical MMPI items for neurologic patients. Appendix A lists the C.N.S. items (Group Form), the direction of scoring, and the MMPI scales affected by the items.

The C.N.S. items can be categorized into 17 logical symptom groups. Table 1 lists the symptom groups and the number of items found in each group. The groups were formed by an empirical keying approach (Greene, 1980; Graham, 1977).

Table 2 presents the number of C.N.S. items on each MMPI scale and the percentage of the scale composed of these items. Figure 7 graphically illustrates the percentage of MMPI scale items made up of the C.N.S. items. Inspection of the list and graph reveals that scales 1, 2, 3, 7 and 8 are most affected by C.N.S. items. Therefore, endorsement of C.N.S. items potentially elevates scales 1, 2, 3, 7 and 8. These MMPI scales may be elevated because the patient is identifying items consistent with his neurobehavioral symptoms.

### PREDICTIONS

A knowledge of the C.N.S. items allows several predictions regarding the MMPI responses of neurologic patients:

Patients endorsing the items will elevate on the 1, 2, 3, 7, and 8 scales even though they may have no psychiatric disorder. Neurologic patients are elevating on these scales because of their perceived symptoms which are related to their neurologic disorders.

Because various patient groups can and will endorse these items for different reasons, the discrimination between neurologic, psychiatric and other medical groups is predicted to be poor. The items on the MMPI are not adequately specific to allow reliable discriminations between these groups or between various neuropathologies.

Patients with better insights into their symptoms will endorse more items. Greater insight will lead to more items endorsed and higher elevations on the scales affected by those items.

Patients with frontal lobe syndromes may endorse fewer items than posterior syndrome patients because frontal patients tend to lack insight into their problems. The number of items endorsed may discriminate between frontal lesion patients, but the content of questions is not adequate to discriminate. The volume of questions endorsed, not the content of the MMPI questions may discriminate anterior from posterior patient groups.

Patients with acute neurologic conditions tend to endorse more items because their symptoms are more evident and intense. Patients with chronic conditions will endorse fewer items because of less intensity of the symptoms and greater adaptation to their symptoms.

The C.N.S. items will not differentiate between lateralized lesions because the MMPI questions are not specific to the types of problems associated with lateralization. There are no questions regarding visual-spatial problems. The questions are associated with more general neurobehavioral symptoms and not associated with the symptoms of localized lesions.

The items will not reliably discriminate the type of neuropathology. Again, the questions are not sufficiently specific to allow neuropathologic differentiation. Multiple sclerosis patients may elevate higher on the 1, 2, and 3 scales because there are more opportunities to endorse items associated with sensory and motor problems, but this would not be specific to them and could be seen with other patient groups.

Understanding the C.N.S. items gives an explanation of previous MMPI research and allows the formation of testable hypotheses to be addressed by future research.

## CASES

We now explore some neurologic cases paying close attention to the C.N.S. items endorsed and how these items relate to MMPI scale elevations.

Figure 8 is the MMPI profile of case E.R., a 49 year old male with 16 years of education. The validity scales suggest he approached the test in a frank and open manner. All but two clinical scales are above the 70 t-score level. The high point code is 281. A traditional clinical interpretation of this profile, might include concerns about acute depression, somatization and thought disturbance. Actually, the patient experienced an embolic stroke approximately 4 months prior to this evaluation. A CT-Scan revealed a "1/2 dollar size lesion" due to an infarct in the "periventricular white matter of the right parietal lobe extending inferiorly to the posterior limb of the internal capsule near the genu."

An interview with the patient and his wife gleaned the following symptoms:

1. Weakness on the left side.
2. Difficulty writing. He runs words and letters together. He cannot write fast and must concentrate closely to make it work.
3. Difficulty taking information on the phone. He cannot quickly grasp information and information has to be repeated for him to understand it over the telephone.
4. Cannot do two things at once.
5. Fatigues easily. As the day wears on he has greater weakness on left side and his speech becomes slurred.
6. Cannot maintain concentration for any extended time.
7. Irritability. He is easily angered and stressed.
8. Cannot deal with groups of people. Tends to withdraw to avoid stress from the stimulation of several people.
9. Difficulty "carrying a thought from A to Z."
10. Dizziness when he turns too fast and looks quickly to the right or the left.
11. Loss of balance. Cannot walk with eyes closed.
12. Difficulty climbing a ladder. Cannot figure out how to put his foot in the right position.
13. Constant ringing in the right ear.
14. Decreased self-confidence.

The patient and his wife deny any depression. There was no evidence of depression in his conversational themes or nonverbal expressions. His sleep, appetite and sex drive were reported to be normal. The patient has no psychiatric history and had been of good adaptation prior to his stroke. The patient is keenly aware of his problems and communicated them.

An analysis of the MMPI looking at C.N.S. items (see Table 3) indicates the patient endorsed 59 items. A number of symptom categories are involved. The symptoms reported on the MMPI are consistent with the interview reports of the patient and his wife. The MMPI scales are significantly affected by these items, particularly affecting elevations on scales 1, 2, 3, 7 and 8. The



patient's elevated MMPI profile is the result of the patient openly communicating his problems and not indicative of a psychiatric disorder. Traditional psychiatric interpretations do not apply. Through inspection of the C.N.S. items, we can understand this man's problems and avoid inappropriate labeling.

Figure 9 is the MMPI profile of case J.W., a 54 year old woman with 10 years of formal education. She sustained a minor head injury with brief loss of consciousness when a large sheet of plywood fell on her head. The evaluation was approximately three months post-injury. The patient reported persistent problems with neck and back pain, attention, mental and emotional control, memory, energy, and initiative. These are symptoms commonly seen in minor head injury patients.

The MMPI profile is valid. There are notable elevations on the 1, 2, and 3 scales. A traditional interpretation might include the possibility of a hysteroid tendency and somatization. An inspection of C.N.S. items reveals that she endorsed 43 items. The categories of items are consistent with the symptoms reported in interview and consistent with a minor closed head injury sequelae. C.N.S. items account for 18 items on scale 1, 12 items on scale 2, and 17 items on scale 3. The patient is elevating on these scales because of her endorsement of items consistent with her neurobehavioral syndrome and not because she is a hysterical personality disorder. The patient has no history of psychiatric disorder.

Reevaluation was conducted 9 months later. Figure 10 is the MMPI profile at the time of the reevaluation. The patient reported improvement in her symptoms. She noted progress and had developed some strategies to work around her difficulties. The MMPI profile is obviously less elevated. She endorsed 23 C.N.S. items compared to the previous endorsement of 43 items.

Figure 11 is the MMPI profile of case W.W., a 37 year old male with 16 years of formal education. Approximately 2 months prior to his evaluation, he sustained a severe closed head injury when he fell from a second story window onto a concrete slab. His injury resulted in a basilar skull fracture, a right cerebral hemisphere epidural hematoma and a left frontal contusion/hemorrhage. Neurosurgical intervention was required to resolve the epidural hematoma. He was in a coma for about a week and his posttraumatic amnesia endured about 3 weeks. He was initially very aphasic (expressive), but this resolved to word finding problems and an occasional paraphasia. In the interview, the patient denied any problems. He saw himself as getting back to normal and ready to return to work. He reported getting headaches "once in a while." Evaluation revealed intelligence lower than the patient's premorbid abilities and executive function difficulties. The patient was error prone and unaware of his errors. Self-monitoring was problematic. The patient has no psychiatric history and has been very adaptive.

The MMPI profile suggests some degree of guardedness. Scales are generally not elevated. He endorsed 6 C.N.S. items. The patient lacks awareness of his problems and therefore reports few difficulties. This lack of awareness is consistent with his frontal brain syndrome and the MMPI reflects his perception of no problems.

These neurologic cases clearly illustrate that a traditional approach to MMPI interpretation based on psychiatric patients would be inappropriate with these patients. The patient's endorsement of symptoms based on his level of awareness of his neurobehavioral symptoms results in various scale elevations. He is endorsing C.N.S. items, and this, in turn, is elevating MMPI scales affected by the items. Through the MMPI, patients try to communicate how they see themselves functioning. The MMPI profiles tell us little about a patient's emotional problems or personality traits, but tell us a great deal about his insights into his problems. An analysis of C.N.S. items better explains why the scales are elevated than does an interpretation which assumes psychiatric problems.

### CLINICAL GUIDELINES

The following guidelines are recommended when using the MMPI with neurologic patients:

Consider not using the MMPI. You might ask yourself, "Why would I want to use it?" The MMPI was not designed for the study of neurologic patients, and the potential pitfalls make its use difficult with this patient population. As discussed above, it is not reliable for differential diagnosis. It will not discriminate psychiatric from neurologic patients with classification rates acceptable for individual clinical decisions. Consider giving up the habit. If you do use it, see it as an opportunity to better understand the patient's complaints and symptoms. This may be the most sensible justification for using the MMPI. However, don't forget, the same information can be collected with a good clinical interview and the interview will reveal more about a dynamic phenomenon. Of course, an interview requires more effort on the part of the clinician.

Consider developing a better self-report inventory for use with neurologic patients. A new instrument is needed in clinical neuropsychology. This instrument would allow the patient to identify a broad range of symptoms associated with the specific and general neurobehavioral problems of brain impairment. All higher cortical functions would be addressed to include Arousal/Alertness; Attention/Concentration; Motor; Sensory; Executive; Memory; Language; Visual/Spatial; Higher Intellectual; and Emotion/Personality functions. The instrument would also be administered to significant others to obtain their views of the patient's symptoms. Items could be included to assess symptoms of depression and stress as seen by the patient and others. Although the development of this instrument would be very demanding and require cooperative efforts from many persons, it would be a most valuable contribution to neuropsychology and aid the understanding of persons afflicted with higher brain disorders. This instrument would be more useful with neurologic patients than the MMPI.

If you do use the MMPI with neurologic patients, use it primarily to understand the patient's reported symptoms. Don't use it to make differential diagnoses, because it cannot do the job. Don't use it to inappropriately label patients. Adding an inappropriate diagnosis of a psychiatric problem to a patient who is already in the throes of an existential dilemma because of biologically disrupted adaptive abilities is inhumane. The patients are already struggling to understand what is going on within themselves, wondering if they are losing their mental faculties, and desperately seeking help. Don't further confuse them, their families, or caretakers with inappropriate psychiatric labels.

Don't rely upon single measures to understand or make statements regarding emotions and personality. Emotions and personality are complicated. To understand emotions and personality requires a very thorough history, reports of the patient, reports of significant others, observations of the patient during interview and test taking demands, and the use of an appropriate collection of tests. Only from such an evaluation can emotions and personality issues be inferred. You cannot make good and valid clinical judgments based solely on an MMPI.

Avoid the brain versus emotion dichotomy. Remember, human behavior is always the joint product of biology, current circumstances, and learning history. All behavior has an organic component. Don't allow yourself to view a test as falling into either a brain sensitive category or an emotion/personality category. Remember that brain diseases can and often do alter emotions and personality.

Avoid using traditional clinical psychology interpretations of the scales. The MMPI scale names are misleading for psychiatric patients and have long been abandoned by informed clinical psychologists (Graham, 1977). The original MMPI scale names are even more misleading with neurologic patients. Actuarial interpretive rules developed for psychiatric patients are not validated for neurologic patients and should not be used.

Look at the C.N.S. items endorsed by the patient. Try to understand what symptoms the patient is communicating. Pay attention to symptom groups. Consider how these reported symptoms fit with the interview information and the particular neuropathology. Consider how aware the patient is of symptoms. A larger number of items endorsed may signify a greater awareness or intensity of problems. Fewer items endorsed may be related to poor insight. Try to understand and not judge. With neurologic patients, an understanding of items endorsed and the related symptoms is more important than scale analysis or global statements about the scale elevations.

Remember that scales 1, 2, 3, 7, and 8 are most affected by C.N.S. items. Especially avoid making traditional cookbook interpretations based upon these scales. Note, these are the scales clinicians would most like to use for differential diagnosis (e.g., somatoform versus neurologic; depression versus neurologic; hysteria versus neurologic; anxiety versus neurologic; schizophrenic versus neurologic). Unfortunately, these scales won't differentiate the disorder for the reasons previously discussed. Consider how the scales are affected by the C.N.S. items selected by the patient. Consider what the profile would be like if the patient had not endorsed these neurologic symptoms.

Try to remember the MMPI is just a self-report of the patient's perceived symptoms. The MMPI cannot diagnose. It can only help you better understand the patient's problems as he sees them.

## SUMMARY

Neuropsychologists routinely use the MMPI to study neurologic patients, despite the fact it was never intended for this purpose and many of the assumptions underlying its use are faulty and poorly understood. The identification and analysis of MMPI items sensitive to the neurobehavioral problems of neurologic patients allows a more rational understanding of the MMPI profiles of neurologic disorders than traditional interpretations based on psychiatric patients. Interpretations based on an appreciation of C.N.S. items lead to more logical conclusions and a better understanding of patients suffering from biologically based adaptive changes than customary clinical speculations. Using the guidelines presented will avoid unnecessary pitfalls which potentially have adverse effects upon the patients and their treatments.

Why do neurologic patients "do funny things" on the MMPI? They don't. The patients answer the questions to the best of their abilities, trying to communicate to us their symptoms and problems. They are limited and constricted by the MMPI questions we give them. The MMPI process and clinicians using inappropriate rules do the "funny things." Hopefully, with more rational insights we can give up our comical ways. For some reason, I am reminded of a quotation from Will Rogers, "It's not what we don't know, but what we know that ain't so, that gets us into trouble!"

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APPENDIX A  
CRIPE NEUROLOGIC SYMPTOM ITEMS  
(C.N.S. ITEMS)

MMPI QUESTIONS WITH NEUROLOGIC IMPLICATIONS

ATTENTION/MENTAL CONTROL (AM) 9 Items

32	I find it hard to keep my mind on a task or job	T-2,3,4,7,8,0
46	My judgment is better than it ever was	F-2,F
134	At times my thoughts have raced ahead faster than I could speak them	T-5,9
168	There is something wrong with my mind	T-F,8
182	I am afraid of losing my mind	T-2,7,8
328	I find it hard to keep my mind on a task or job	T-2,3,4,7,8,0
335	I cannot keep my mind on one thing	T-8
356	I have more trouble concentrating than others seem to have	T-7,8
374	At periods my mind seems to work more slowly than usual	T (none)

APPETITE (LA) 2 Items

155	I am neither gaining nor losing weight	F-1,2,4
424	I feel hungry almost all the time	T (none)

EMOTIONAL CONTROL (EC) 12 Items

22	At times I have fits of laughing and crying that I cannot control	T-6,7,8,9
75	I get angry sometimes	T (none)
105	Sometimes when I am not feeling well I am cross	T (none)
129	Often I can't understand why I have been so cross and grouchy	T (none)
158	I cry easily	T-2,6

234	I get mad easily and then get over it soon	F-K,3
242	I believe I am no more nervous than most others	F-2
326	At times I have fits of laughing and crying that I cannot control	T-6,7,8,9
336	I easily become impatient with people	T-7,0
337	I feel anxiety about something or someone almost all the time	T-7
399	I am not easily angered	F (none)
468	I am often sorry because I am so cross and grouchy	T (none)
FATIGUE/ENERGY (FE) 5 Items		
163	I do not tire quickly	F-1,3
189	I feel weak all over much of the time	T-1,2,3,7
272	At times I am full of energy	F-F,K,2
505	I have had periods when I felt so full of pep that sleep did not seem necessary for days at a time	T (none)
544	I feel tired a good deal of the time	T (none)
HEALTH (HE) 3 Items		
51	I am in just as good physical health as most of my friends	F-1,2,3
153	During the past few years I have been well most of the time	F-1,2,3
160	I have never felt better in my life than I do now	F-K,2,3
HEADACHES (HD) 5 Items		
44	Much of the time my head seems to hurt all over	T-3
108	There seems to be a fullness in my head or nose most of the time	T-1
114	Often I feel as if there were a tight band about my head	T-1,3

161	The top of my head sometimes feels tender	T-1
190	I have very few headaches	F-1,3
INCONTINENCE (IC) 1 Item		
462	I have had no difficulty starting or holding my urine	F-0
MEMORY (ME) 3 Items		
178	My memory seems to be all right	F-2,7,8
342	I forget right away what people say to me	T-7,0
560	I am greatly bothered by forgetting where I put things	T (none)
MOTOR (MT) 6 Items		
103	I have little or no trouble with my muscles twitching or jumping	F-1,3,8
186	I frequently notice my hand shakes when I try to do something	T-3
187	My hands have not become clumsy or awkward	F-8
330	I have never been paralyzed or had any unusual weakness of any of my muscles	F-8
405	I have no trouble swallowing	F (none)
540	My face has never been paralyzed	F (none)
PAIN (PN) 2 Items		
243	I have few or no pains	F-1,3
68	I hardly ever feel pain in the back of my neck	F-1,F
SEIZURES/BLANK EPISODES (SB) 5 Items		
154	I have never had a fit or convulsion	F-2
156	I have had periods in which I carried on activities without knowing later what I had been doing	T-F,8,9
174	I have never had a fainting spell	F-3
194	I have had attacks in which I could not control my movements or speech but in which I knew what was going on around me	T-8,9



251	I have had blank spells in which my activities were interrupted and I did not know what was going on around me	T-8,9
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SENSORY (SE) 15 Items

7	My hands and feet are usually warm enough	F-1,3
47	Once a week or oftener I feel suddenly hot all over, without apparent cause	T-3,8
62	Parts of my body often have feelings like burning, tingling, crawling, or like "going to sleep."	T-1
184	I commonly hear voices without knowing where they come from	T-F
185	My hearing is apparently as good as that of most people	F-F
188	I can read a long while without tiring my eyes	F-1,3
214	I have never had any breaking out on my skin that has worried me	F (none)
273	I have numbness in one or more regions of my skin	T-8,1
274	My eyesight is as good as it has been for years	F-1,3
281	I do not often notice my ears ringing or buzzing	F-1,6,8,0
334	Peculiar odors come to me at times	T-8
341	At times I hear so well it bothers me	T-6,8
496	I have never seen things doubled (that is, an object never looks like two objects to me without my being able to make it look like one object)	F (none)
508	I believe my sense of smell is as good as other people's	F (none)
541	My skin seems to be unusually sensitive to touch	T (none)

SEXUAL (SX) 4 Items

- |     |   |         |
|-----|---|---------|
| 20  | My sex life is satisfactory                 | F-4,8   |
| 179 | I am worried about sex matters              | T-3,5,8 |
| 310 | My sex life is satisfactory                 | F-4,8   |
| 519 | There is something wrong with my sex organs | T       |

SLEEP (SD) 5 Items

- |     |  |         |
|-----|--|---------|
| 3   | I wake up fresh and rested most mornings                         | F-1,3,7 |
| 5   | I am easily awakened by noise                                    | T-2     |
| 43  | My sleep is fitful and disturbed                                 | T-1,2,3 |
| 152 | Most nights I go to sleep without thoughts or ideas bothering me | F-2,7   |
| 211 | I can sleep during the day but not at night                      | T-F     |

SPEECH/LANGUAGE (SL) 3 Items

- |     |  |         |
|-----|--|---------|
| 119 | My speech is the same as always (not faster or slower, or slurring; no hoarseness) | F-8,9,0 |
| 159 | I cannot understand what I read as well as I used to                               | T-2,7,8 |
| 332 | Sometimes my voice leaves me or changes even though I have no cold                 | T-8,0   |

VERTIGO/NAUSEA (VN) 4 Items

- |     |   |         |
|-----|---|---------|
| 23  | I am troubled by attacks of nausea and vomiting           | T-1,2,3 |
| 175 | I seldom or never have dizzy spells                       | F-1,3   |
| 192 | I have had no difficulty in keeping my balance in walking | F-1,3,8 |
| 288 | I am troubled by attacks of nausea and vomiting           | T-1,2,3 |

VOCATIONAL (VO) 1 Item

- |   |  |         |
|---|--|---------|
| 9 | I am about as able to work as I ever was | F-1,2,3 |
|---|--|---------|

TABLE 1

C.N.S. SYMPTOM GROUPS AND THE NUMBER OF ITEMS FOUND IN EACH GROUP

## C.N.S. ITEMS

<u>TYPE OF SYMPTOMS</u>	<u>NUMBER OF ITEMS</u>
ATTENTION/MENTAL CONTROL (AM)	9
APPETITE (LA)	2
EMOTIONAL CONTROL (EC)	12
FATIGUE/ENERGY (FE)	5
HEALTH (HE)	3
HEADACHES (HD)	5
INCONTINENCE (IC)	1
MEMORY (ME)	3
MOTOR (MT)	6
PAIN (PN)	2
SEIZURE/BLANK EPISODE (SB)	5
SENSORY (SE)	15
SEXUAL (SX)	4
SLEEP (SD)	5
SPEECH/LANGUAGE (SL)	3
VERTIGO/NAUSEA (VN)	4
VOCATIONAL (VO)	1

TABLE 2

THE PERCENTAGE OF MMPI SCALE ITEMS COMPOSED OF C.N.S. ITEMS

<u>SCALE</u>	<u>NO. ITEMS</u>	<u>%</u>
1 (HS)	25/33	76
2 (D)	21/60	35
3 (HY)	27/60	45
4 (PD)	5/50	10
5 (MF)	2/50	4
6 (PA)	5/40	13
7 (PT)	14/48	29
8 (SC)	27/78	35
9 (MA)	7/46	15
0 (SI)	8/70	11

TABLE 3

## C.N.S. ITEM ANALYSIS OF CASE E.R.

MMPI CODE: 281\*73"605'9-4/ F-L/K:

C.N.S. ITEMS = 59

C.N.S. CATEGORIES  
ITEMS

AM = 8/9  
 LA = 0/2  
 EC = 11/12  
 FE = 3/5  
 HE = 3/3  
 HD = 3/5  
 IC = 0/1  
 ME = 3/3  
 MT = 6/6  
 PN = 2/2  
 SB = 4/5  
 SE = 9/15  
 SX = 0/4  
 SD = 1/5  
 SL = 3/3  
 VN = 2/4  
 VO = 1/1

SCALES & C.N.S.

L = 0  
 F = 5  
 K = 1  
 1 = 19  
 2 = 14  
 3 = 19  
 4 = 2  
 5 = 1  
 6 = 4  
 7 = 13  
 8 = 21  
 9 = 6  
 0 = 7

FIGURE 1

THE GROUP MMPI PROFILE OF 90 NEUROLOGIC PATIENTS STUDIED BY  
WILLCOCKSON (1986).

MMPI PROFILE OF BRAIN DAMAGED GROUP  
N = 90, 66 Males, 24 Females, Age 40.0  
(Willcockson, 1986)

MMPI PROFILE OF BRAIN DAMAGED GROUP  
N = 90, 66 Males, 24 Females, Age 40.0  
(Willcockson 1986)

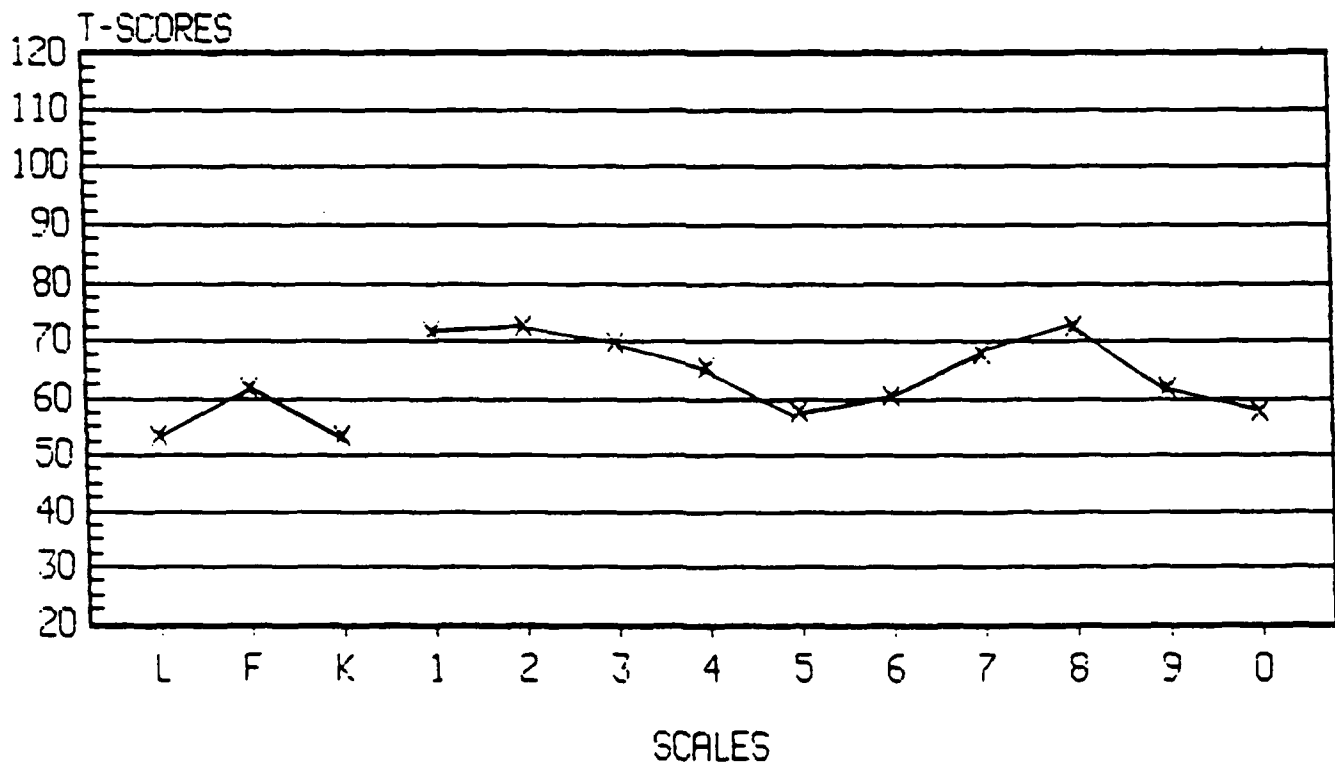




FIGURE 2

The group MMPI profile of 33 multiple sclerosis patients (Canter 1951).

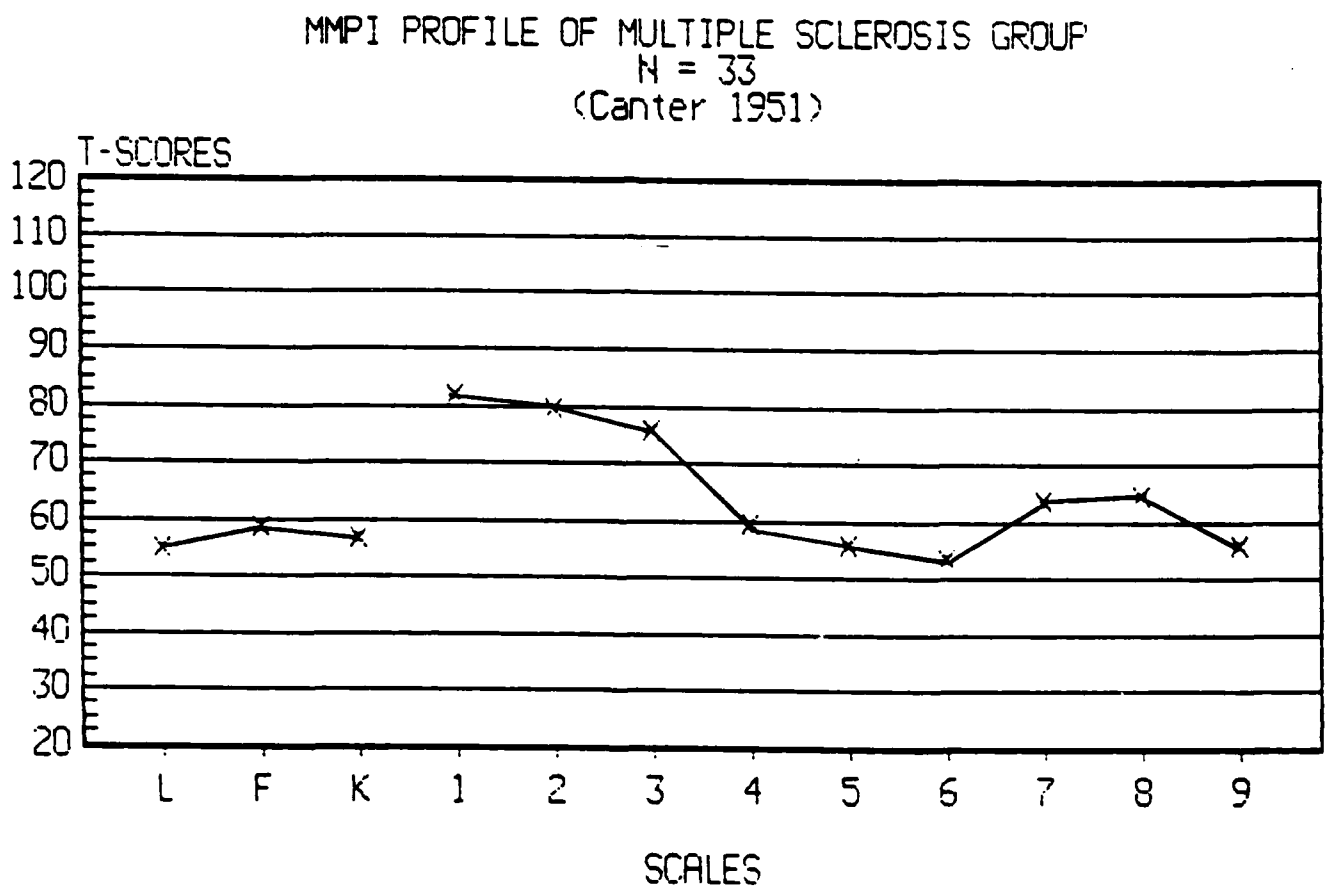




FIGURE 3

The group MMPI profile of a head injury group (Black 1974).

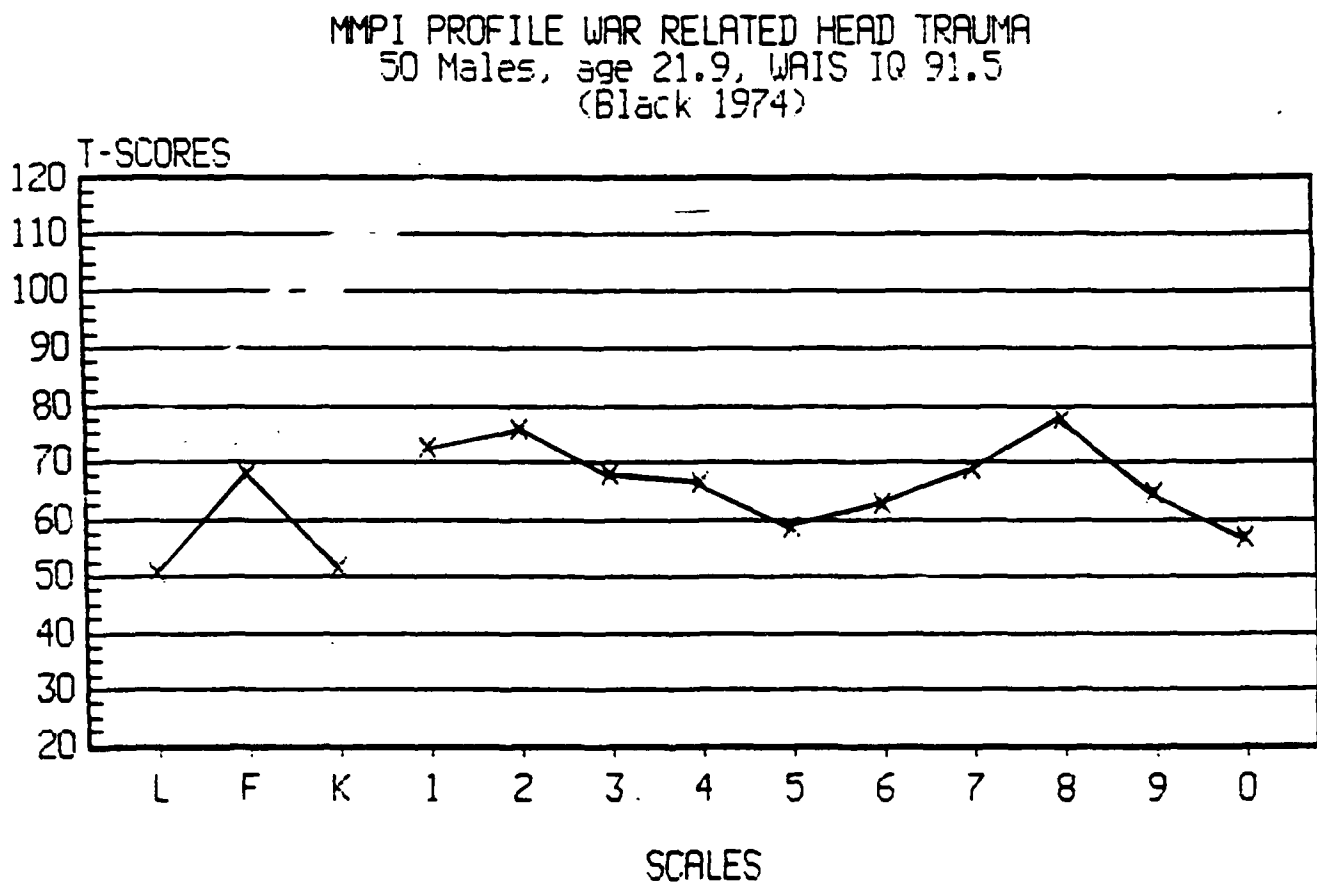


FIGURE 4

Group MMPI profiles of patients with lateralized lesions (Dikmen & Reitan 1974).

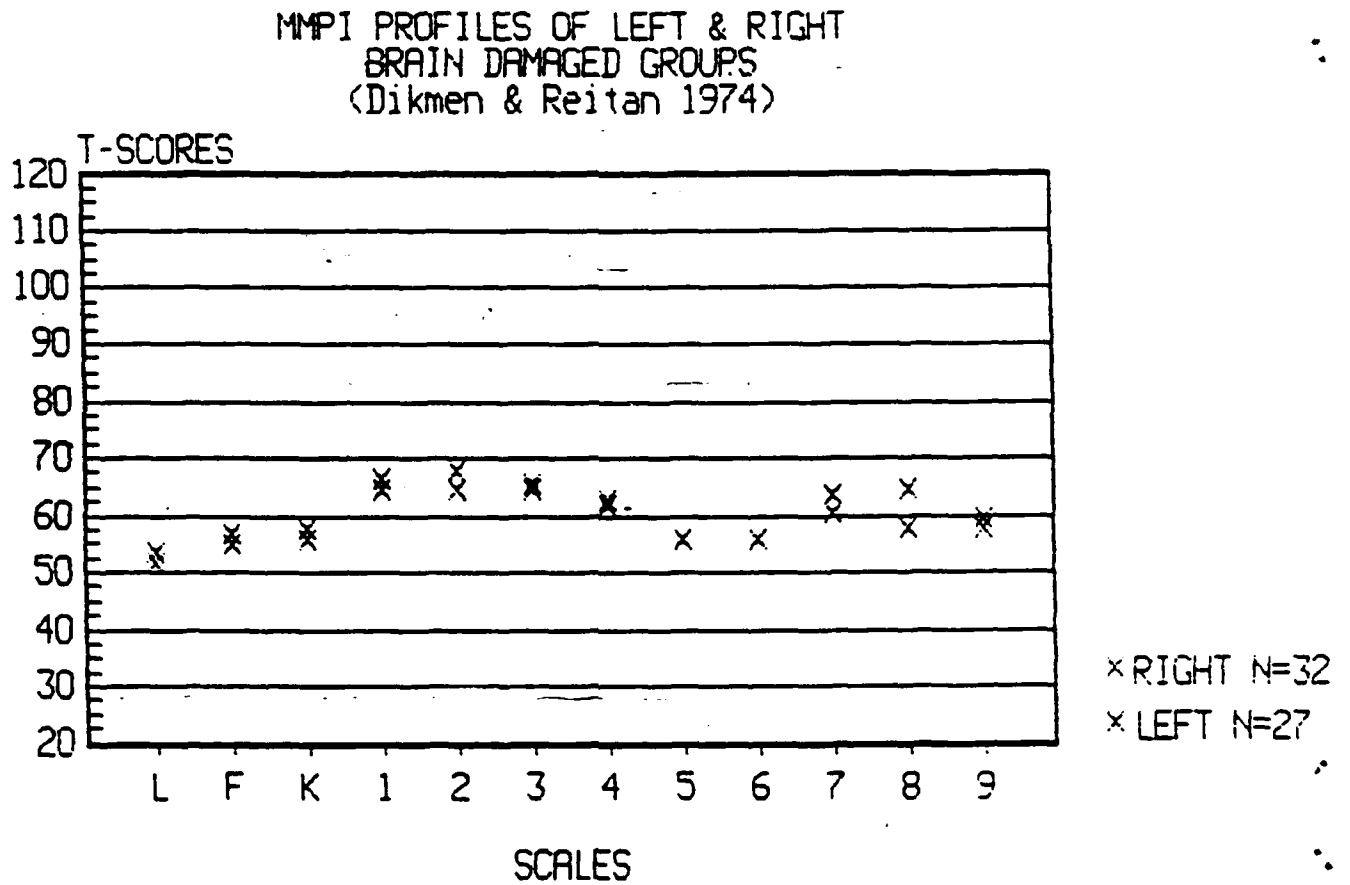


FIGURE 5

Group MMPI profile of left and right hemisphere damaged patients (Moehle & Fitzhugh-Bell 1988).

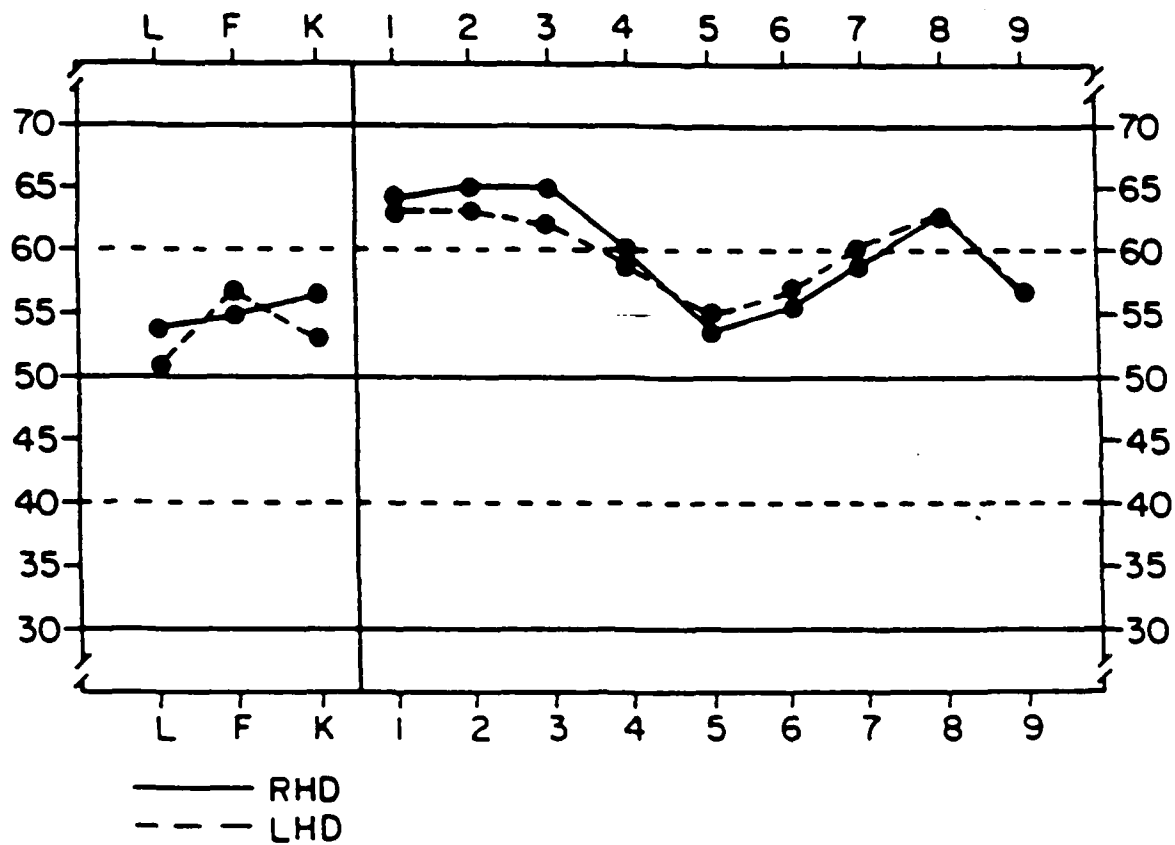


FIGURE 6

Comparison of the group MMPI profiles of frontal and posterior patients (Anderson & Hanvik 1956).

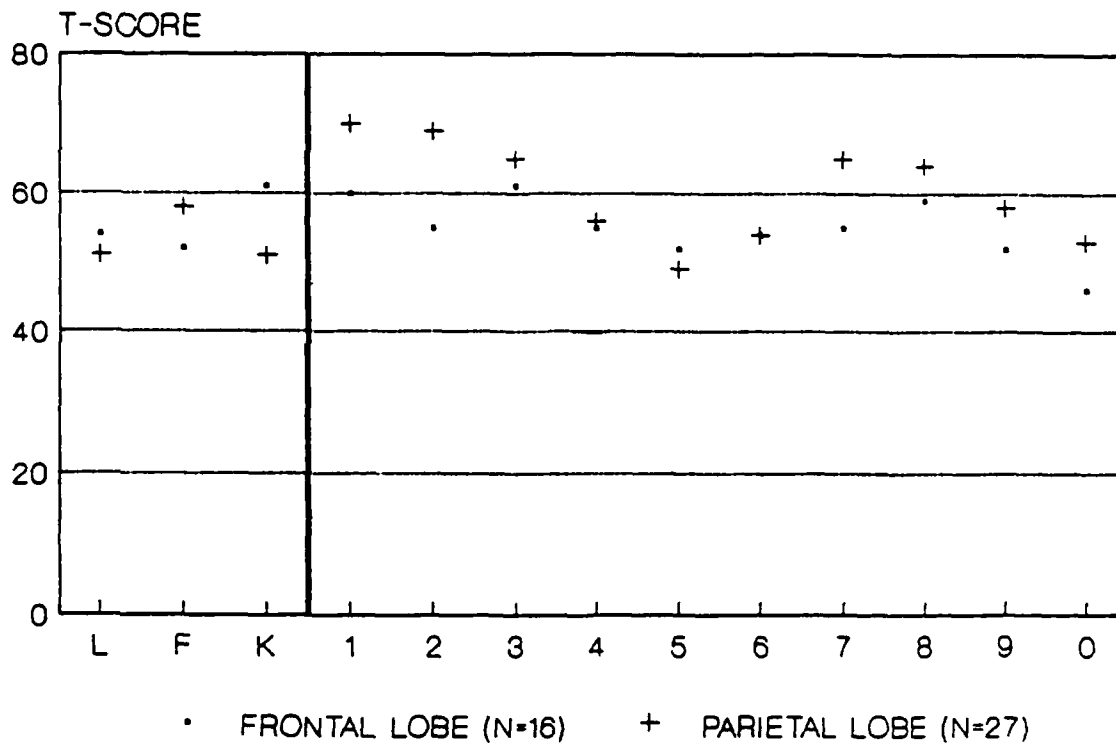


FIGURE 7

The percentage of MMPI scale items composed of C.N.S. items.

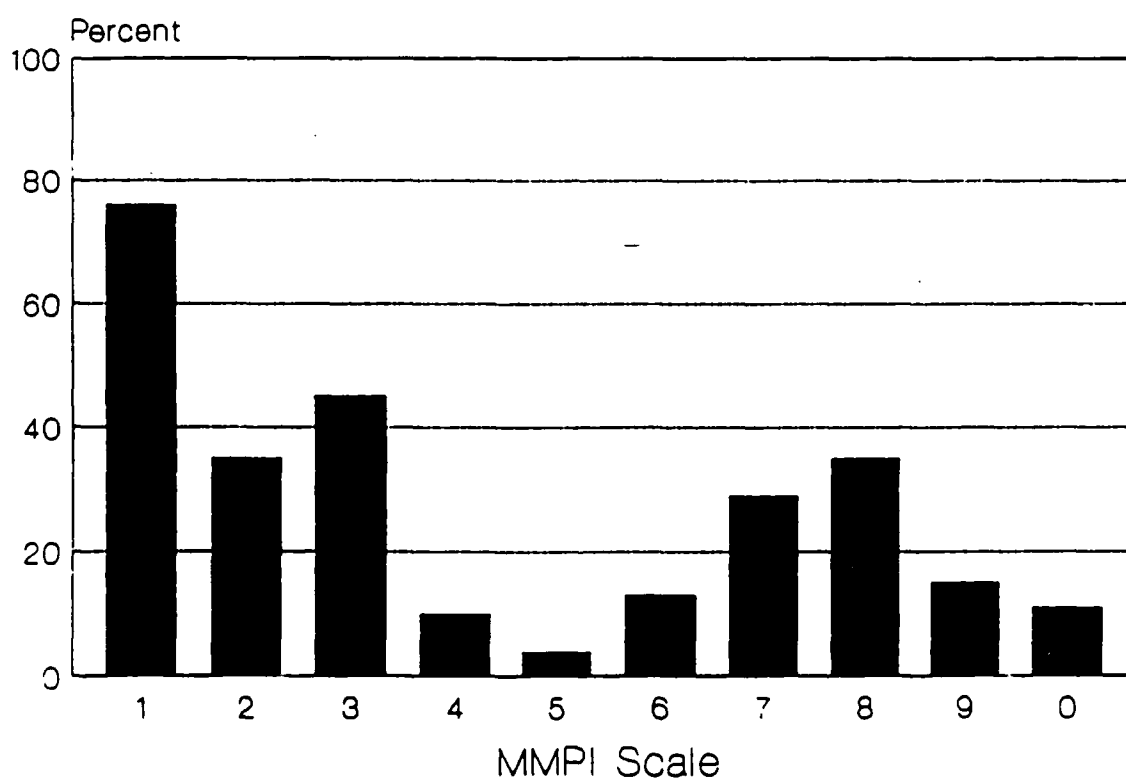
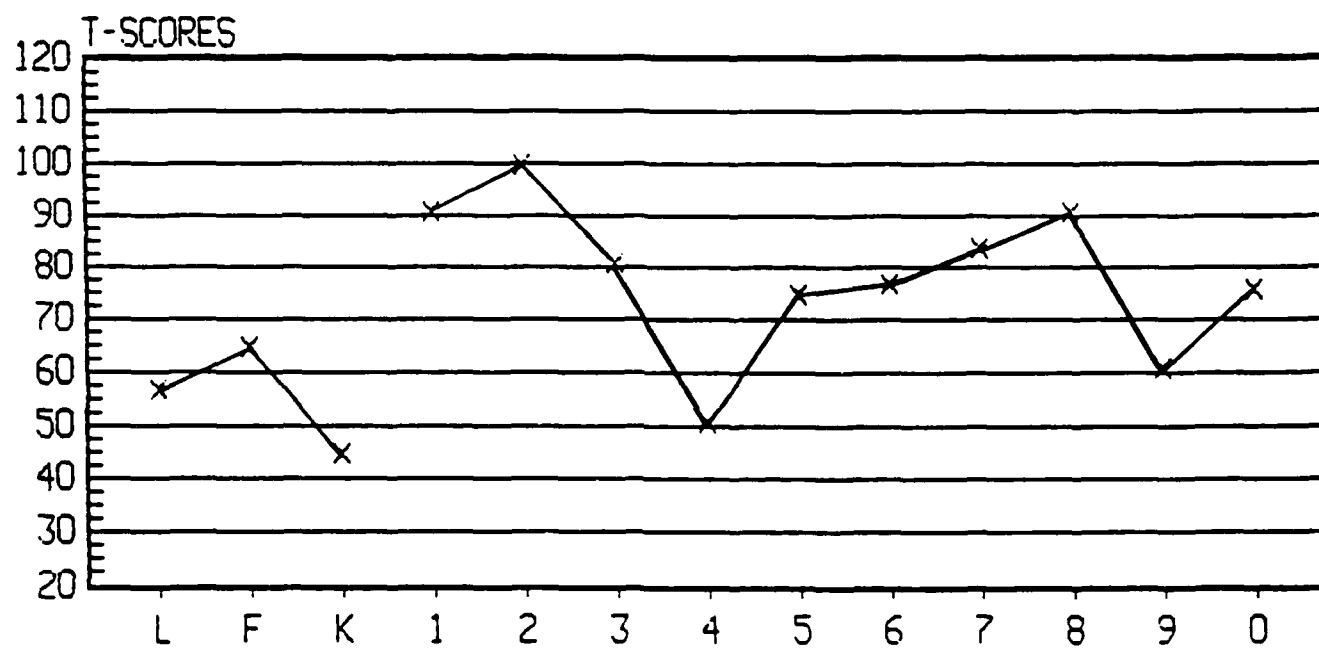


FIGURE 8

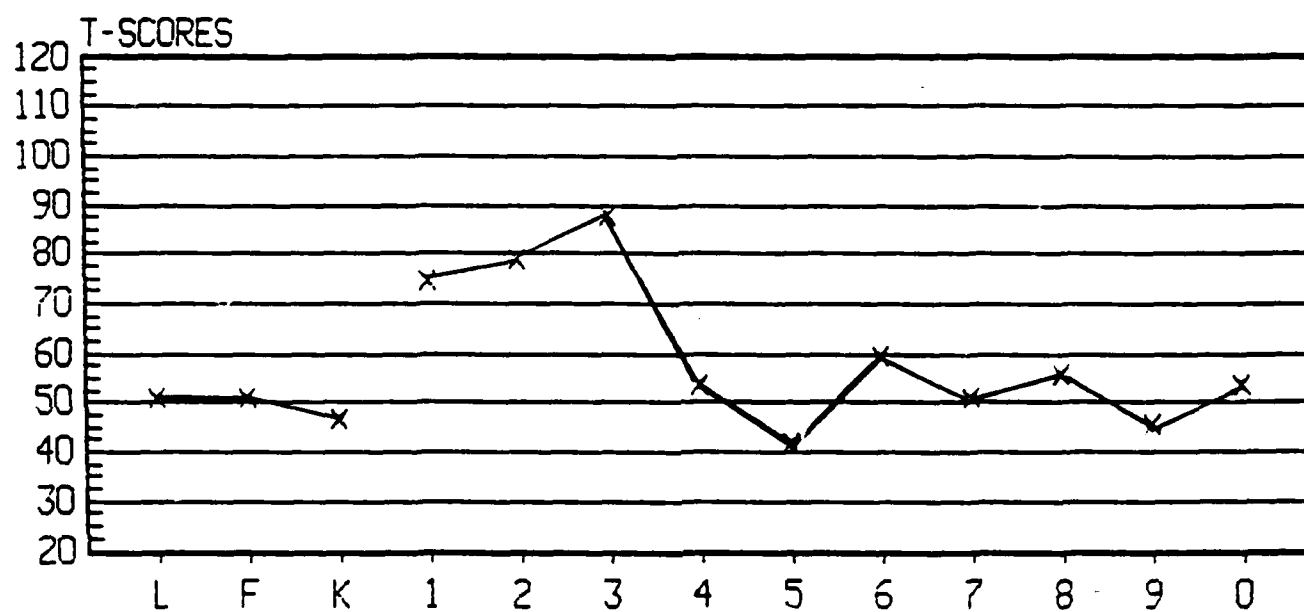
The MMPI profile of case E.R.



281\*73"605'9-4/ F-L/K:  
C.N.S. ITEMS = 56

FIGURE 9

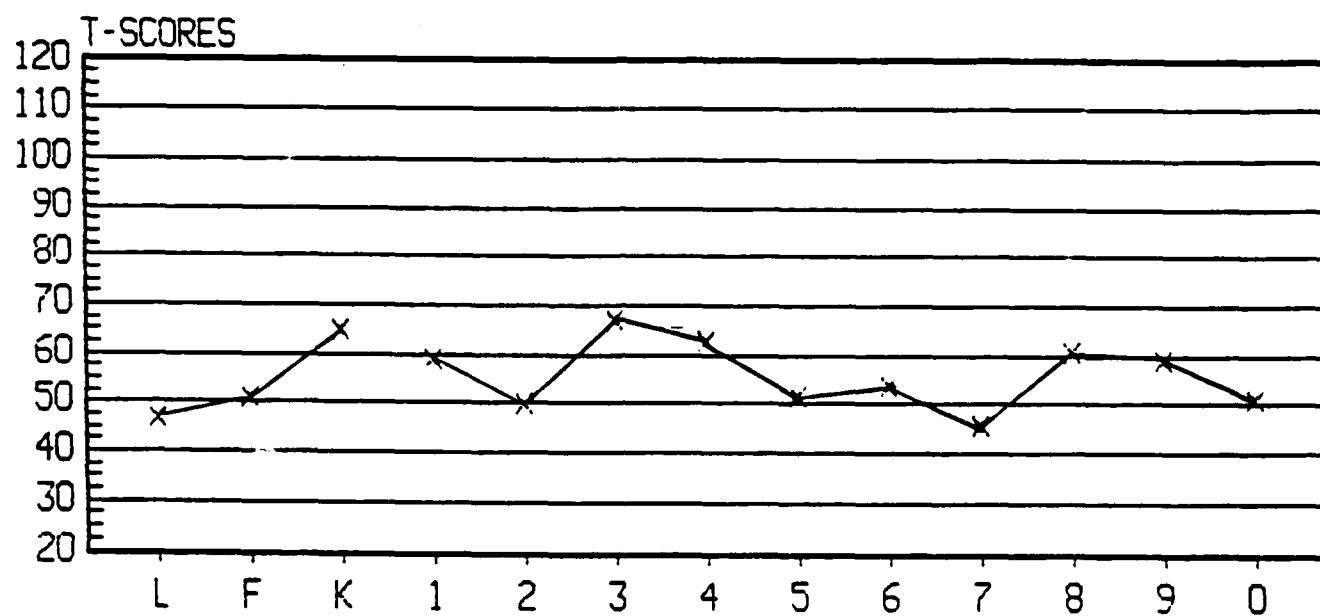
The MMPI profile of case J.W.



3'21'68047/95: FL/K  
C.N.S. ITEMS = 38

FIGURE 10

The re-evaluation MMPI profile of case J.W.

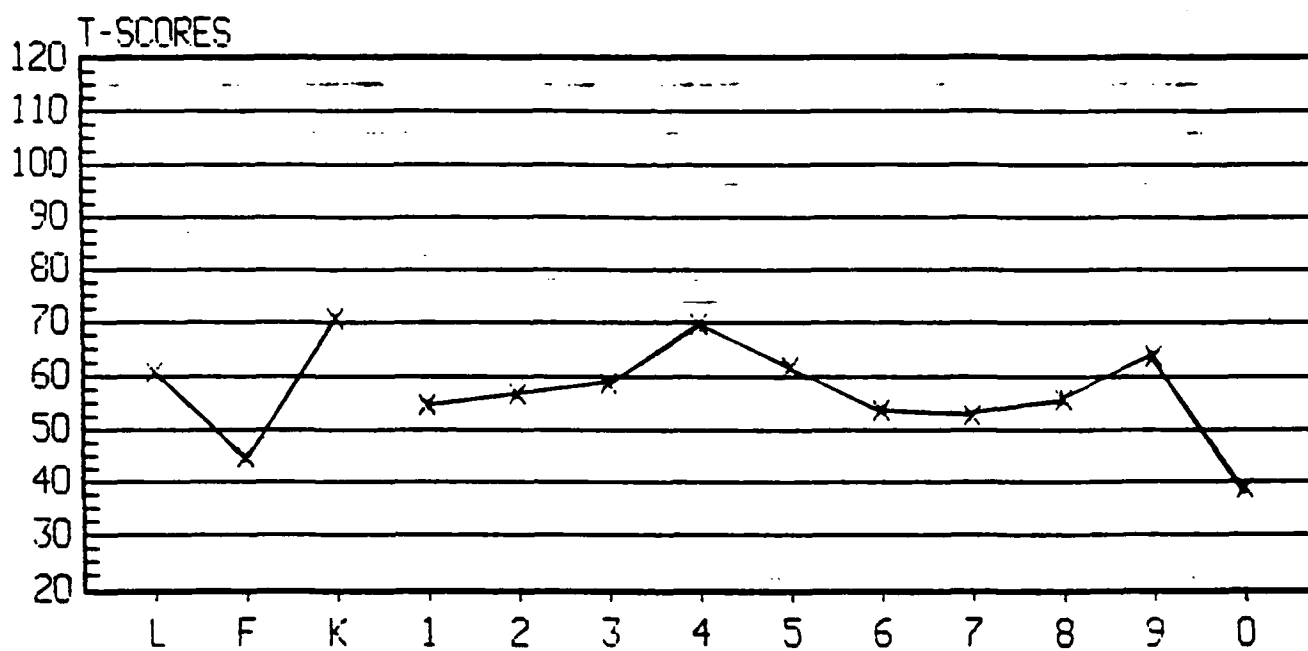


348-91650/27: K-F/L:  
C.N.S. ITEMS = 24



FIGURE 11

The MMPI profile of case W.W.



495-328167/0# K'L-F:  
C.N.S. ITEMS = 9

## SUBCORTICAL DEMENTIA AND HIV INFECTION

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This paper will present an overview of the concept of dementia, focus specifically on the syndrome of subcortical dementia, and then review what is known about the AIDS Dementia Complex as a possible major new source of subcortical dementia.

Dementia is defined as persistent global deterioration of intellectual functioning due to an organic cause. The clinical picture of dementia according to the Diagnostic and Statistical Manual of Mental Disorders (DSM III-R, American Psychiatric Association, 1987) involves the following:

- A. Impairment in long- and short-term memory
- B. At least one of the following:
  - (1) impairment in abstract thinking
  - (2) impaired judgement
  - (3) other disturbances of higher cortical functioning, e.g., aphasia, apraxia, agnosia, constructional difficulty, etc.
  - (4) personality change

Thus, the term dementia is a general one and the criteria for diagnosis can be satisfied by a variety of signs and symptoms. It should also be noted that the deterioration is described as "persistent" to differentiate it from acute conditions, particularly delirium. However, the persistence of the condition is relative and does not necessarily imply irreversibility.

The most common cause of dementia is Alzheimer's Disease (Cummings & Benson, 1983) which is characterized neuropathologically by degeneration of neurons in large areas of the cortex. On the lateral surface of the brain, degeneration is most prominent at the junction of the temporal, parietal, and occipital areas and in the limbic region it is most prominent in the hippocampus, entorhinal areas, posterior cingulate area, and amygdala. The primary motor and primary somatosensory cortex are largely spared.

The neuropsychological features of Alzheimer's Disease are well known. The following are typical impairments seen in the early stages of the disease:

Memory	Impaired new learnings; forgetfulness.
Visuospatial	Impaired sense of direction; prone to get disoriented.
Visuoconstructive	Poor drawing; deteriorated handwriting.
Personality	Distraught, depressed; sometimes defensive or irritable.
Language	Poor word fluency; dysnomia.

As the disease progresses, a process that can take years, the following features commonly emerge:

Memory	Severely impaired in all aspects.
Visuospatial	Disoriented even in very familiar places; unaware of surroundings.
Personality	Apathetic; sometimes delusional and agitated
Language	Aphasia, anomia, acalculia; empty speech.

In general the features described above are associated with impairment of functioning at the level of the cerebral cortex. That is, based on current knowledge of brain-behavior relationships, the observed impairments of neuropsychological functioning in Alzheimer's Disease correlate reasonably well with the observed cortical neuropathology. For example, the prominent and early disturbance of memory is accounted for by the degeneration of the cortical areas surrounding the hippocampus and the hippocampus itself. Hence, Alzheimer's Disease is categorized by Cummings and Benson (1983) as the prototypical cortical dementia.

In 1974, (Albert, Feldman, & Willis, 1974) the term subcortical dementia was first used to refer to the intellectual deterioration observed in progressive supranuclear palsy (PSP). This rare disorder involves deterioration of the subthalamic nucleus, red nucleus, substantia nigra, superior colliculus, the periaqueductal gray matter, and the dentate nucleus in the cerebellum. The thalamus, globus pallidus, and putamen are affected to a limited extent while the cerebral cortex is usually unaffected. Clinically, PSP is manifested by masklike facies, difficulty swallowing, drooling, and dysarthria. Rigidity in the neck and trunk is seen. The ocular disturbances are an initial loss of volitional downgaze later progressing to loss of upward and horizontal gaze.

Albert and his colleagues described the following four main features of the dementia associated with PSP:

1. Forgetfulness
2. Slowness of thought processes
3. Personality changes characterized as apathy or depression
4. Impaired ability to manipulate acquired knowledge.

The term subcortical dementia was employed because of the site of the primary neuropathology and because the clinical features of a cortical dementia such as aphasia, agnosia, amnesia, and alexia were absent or relatively mild. As well as I can determine, the concept was not based on a theoretical or empirical understanding of how the functions subserved by the affected areas were disrupted. In fact, the contributions of these areas to the higher level functional systems of the brain are, with a few exceptions, not well understood. Much of the relevant research designed to uncover the contribution of these subcortical areas has been with animals and has uncertain applicability to humans (Penny & Young, 1983).

Nevertheless, on the basis of clinical classification some generalizations may be made about the two types of dementia (Table 1). Note that the DSM-III-R criteria rely heavily on what are described here as features of a cortical dementia (see Table 1).

Cummings and Benson (1983), prominent researchers in this field, use cortical versus subcortical as the primary distinction in classifying the dementias. Theirs is not the only classification of the dementias, and it is not without its critics, but it is a reasonable and useful one. Table 2 presents a simplified version of the taxonomy they developed.

Because of the large number of possible disorders under the subcortical category, I listed only the major subgroupings. However, despite the relatively large number of subcortical disorders, in absolute terms, the main cause of dementia is Alzheimer's Disease, accounting for more than 50% of all cases (Jenike, 1988).

Where does AIDS Dementia Complex fit into this classification? When this classification scheme was drawn up five years ago, this source of dementia was unknown. Now it is a major disorder of significant proportions. It has been described as largely a subcortical dementia, and I will examine the evidence for that hypothesis below. However, before turning to the AIDS Dementia Complex, I will examine more closely what is meant by subcortical structures and describe the clinical features of some of the known major diseases that affect these structures.

Huntington's Disease is a devastating disorder. It is an inherited autosomal dominant disease that causes strange choreic movements and a variety of other movement disorders (Martin, 1984). It also causes a profound dementia (see Table 3). The neuropathology of Huntington's is focused in the basal ganglia, primarily in the caudate nucleus, but the putamen and the globus pallidus are also affected. These structures are thought to be primarily concerned with complex motor programming. It should also be noted that mild to moderate atrophy in the cortex has also been demonstrated particularly in the frontal and parietal areas. Deterioration of the caudate is the most prominent pathology, however.

Parkinson's Disease (PD) is a relatively common neurological disease with a characteristic movement disorder. Slowness of movement, tremor, muscular rigidity, and lack of facial expression are typical manifestations (Adams & Victor, 1985). Previously there was some debate over whether there is in fact a dementia associated with PD. It was originally thought that PD caused only a disruption of the extrapyramidal motor system with no cognitive impairment. It is now well accepted that a large percentage of Parkinson patients, from 35%-55% depending on the study, do exhibit a dementia, usually of mild-moderate proportions, and that this dementia cannot be attributed to concomitant Alzheimer's Disease (Huber, Shuttleworth, & Paulson, 1986). The characteristics of the dementia are not well established, but the following are frequently reported (see Table 4). The neuropathology of Parkinson's Disease involves degeneration of the substantia nigra (SN) and subsequent reduction of the neurotransmitter dopamine in the basal ganglia and other areas. Other brainstem areas often affected are the pars compacta (actually a section of the SN), locus coeruleus (rich in norepinephrine, which is converted from dopamine), and the hypothalamus. Dopamine receptors in the striatum are deprived of input from the SN. At autopsy, however, the basal ganglia are usually not deteriorated. The motor symptoms may be explained by the detrimental effect of the disease on the basal ganglia which we know to be involved in complex motor functioning, but the intellectual impairments are harder to explain. They may be related to the necessity for subcortical input to the cortex to properly maintain cortical efficiency.

These two examples of subcortical diseases causing dementias involve different neuroanatomical structures, but they do resemble one another in clinical characteristics. Now, I will turn to the AIDS Dementia Complex as the final example of subcortical pathology affecting higher neuropsychological functions.

Current estimates are that 1-1.5 million Americans are seropositive for the HIV virus (Centers for Disease Control, 1986). If 20-30% of these patients develop AIDS, then by 1991 there will be 270,000 cases. How many of these AIDS victims will develop AIDS Dementia Complex (ADC), and what is the nature of this disorder?

Probably the best description of the ADC is provided by Navia and his colleagues (Navia, Jordan, & Price, 1986; Navia, Eun-Sook, Petit, & Price, 1986) of the Memorial Sloan-Kettering Cancer Center. In 1986, they reported a prospective study of 121 AIDS patients who were followed over the course of their illness and eventually examined at autopsy. Of the 121, 36 were excluded from their report for having frank macroscopic focal nervous system diseases such as cerebral toxoplasmosis and CNS lymphoma. The remaining 70 had no evidence of focal neurologic processes or opportunistic infection of the CNS. Of the 70, 46 (66%) evidenced unexplained progressive cognitive and behavioral changes during life. Note that the researchers had already excluded patients who had evidence of direct CNS involvement.

The early manifestations of the dementia are listed in Table 5 (Navia, Jordan, & Price, 1986). Many of them are typical of the other subcortical syndromes already reviewed. What is known of the neuropathology with which ADC is correlated? Price, Sidtis, & Rosenblum (1988), in a recent review article, reported that there is an emerging consensus that the major infected cells in the brains of these patients are macrophages and the multinucleated cells that result from the pathological fusion of macrophages. Presumably HIV infection of these cells causes this fusion (see Table 6). It appears now that the neurons are not directly affected by the virus, but this has not been conclusively established. The areas of the brain that are affected are listed in Table 6 roughly in the order of frequency. Notice that many subcortical structures are listed but that white matter is at the top of the list. A recent report using the PET scanner to determine regional glucose metabolism (Rottenberg, Moeller, & Strother, in press) suggested altered metabolism in the thalamus and the basal ganglia. Such alterations may in turn interfere with the normal cortical-subcortical connections and communication, a process that may be operative in PD.

Finally, we may ask what causes the deterioration of intellectual functioning if neurons are not being directly affected by the virus? It has been suggested by Haase (1986) that toxic products from the infected macrophages and microglia interfere with normal cell physiology which in turn causes the derangement in neuropsychological functioning. The disorder thus is explained as toxic/metabolic encephalopathy. If such a cause is operative then there is some hope for restoration of functioning should a treatment become available. That is, the dementia may be reversible. There has been a preliminary report (Yarchoan, Berg, Brouwers, et al, 1987) that azidothymidine (AZT) treatment results in improvement of neuropsychological functioning, but controlled investigation remains to be done.

At present, many questions remain. While it is clear that dementia can progress independently of the status of immunosuppression, we need to know how common such a pattern is and, more generally, what the connection is between immunosuppression and dementia. We need to know the natural course of the disorder and its variants. From a neuropsychological perspective, we also need to know whether nonsymptomatic infected patients have subtle neurobehavioral impairments that might affect their ability to work. Some data suggests they do. We hope that the research project currently underway at LAMC will help answer some of these questions.

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TABLE 1  
CHARACTERISTICS OF CORTICAL AND SUBCORTICAL DEMENTIAS

<u>Feature</u>	<u>Subcortical</u>	<u>Cortical</u>
Language	No aphasia	Anomia, aphasia
Memory	Difficulty with retrieval	Difficulty with new learning
Cognition	Impaired due to slowness and poor planning	Impaired due to aphasia, anomia, acalculia, etc.
Mood	Major depression or mania	Normal or less severe depression
Motor	Movement disorder common, dysarthria, tremor, etc.	Normal until late in course



TABLE 2  
CLASSIFICATION OF THE DEMENTIAS

<u>Cortical</u>	<u>Subcortical</u>	<u>Cortical and Subcortical</u>
Alzheimer's Disease	With movement disorder	Multi-infarct dementia
Pick Disease	With hydrocephalus	Result of infection
	Toxic and metabolic	Post-traumatic, hypoxic
	Associated with depression	

TABLE 3  
NEUROPSYCHOLOGICAL FEATURES OF HUNTINGTON'S DISEASE

Attention	Impaired
Cognition	General slowing
Memory	Remote memory notably impaired
Language	Impaired verbal fluency, dysnomia
Motor	Choreic movements, grimacing, dysarthria, gait disturbance
Psychiatric	Personality changes, affective disorders, frank psychosis

TABLE 4  
NEUROPSYCHOLOGICAL FEATURES OF PARKINSON'S DISEASE

Visuospatial	Impaired
Language	Generally unaffected
Cognition	Slow to shift sets; slow to process new information
Motor	Bradykinesia, rigidity, tremor, etc.
Psychiatric	Depression

TABLE 5

EARLY SYMPTOMS OF AIDS DEMENTIA AND PERCENTAGE OF DEMENTED PATIENTS  
EXHIBITING EACH

<u>Cognitive</u>		66%
Forgetfulness	39%	
Confusion	23%	
Slowness of thinking	18%	
Impaired concentration	25%	
<u>Motor</u>		45%
Loss of balance	30%	
Impaired handwriting	14%	
Leg weakness	20%	
<u>Behavioral</u>		39%
Apathy, withdrawal	36%	
Dysphoric mood	11%	
Psychosis, regression	7%	
<u>Other</u>		
Headache	14%	
Seizure	7%	

TABLE 6  
NEUROPATHOLOGY OF AIDS DEMENTIA COMPLEX

Major Infected Cells

Macrophages  
Fused macrophages (multinucleated cells)  
Microglia  
Neurons?

Major sites of involvement

White matter  
Putamen  
Caudate  
Caustrum  
Globus pallidus  
Thalamus  
Cortex?

## SPECIAL CONSIDERATIONS IN THE NEUROPSYCHOLOGICAL EVALUATION OF PERSONNEL ON FLIGHT STATUS

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The complicated cognitive and psychomotor demands of flying necessitate special sensitivity to those neuropsychological deficits which may compromise the ability to fly. Psychologists unfamiliar with the performance demands of flying may underestimate the importance of deficits which may be of considerable aeromedical significance. This paper will provide an overview of the aviation medicine regulations and discuss special considerations in the procedures governing the neuropsychological disposition of aviators with particular attention to mild closed head injuries. Dispositions will be illustrated using case examples.

The roles for clinical psychologists in aviation medicine continue to expand. A particularly important function which has emerged for psychologists with neuropsychological expertise is the evaluation of neuropsychological fitness for flying duties in pilots with neurologic disorders. In general, a pilot with a severe neurologic disorder will be disqualified from flying duties. On the other hand, less severe or transient neurological problems present considerable difficulties in aeromedical disposition (Jones, 1985). Frequently, the neuropsychological evaluation is the only evaluation in the neurological work-up which specifically addresses issues of functional capacity, and thus the results weigh very heavily in the determination of flight status. Therefore, it is important for psychologists performing neuropsychological consultations on aviators to be familiar with the neuropsychological demands posed by flying and deficits which potentially compromise flight performance, the regulations governing return to flying duty, and the unique considerations in the neuropsychological evaluation of flight status personnel. This paper will address these issues as they relate to the particular application of returning pilots to flying duties following mild closed head injuries (CHI). This issue has been highlighted because it represents one of the most frequently occurring neurological conditions in aviation medicine (Jones, 1985) and also because it is a neurological condition in which the neuropsychological test results are given particularly high consideration in the determination of return to flying duties by the aeromedical standards waiver and review board at the U.S. Army Aeromedical Center at Fort Rucker, Alabama.

The precise classification of concussive or mild closed head injury is problematic owing to contradictory definitions and classification schemes (Gennarelli, 1982; Jennett, 1979; Russell, 1971). Yet, most classifications are similar in that they emphasize either a very brief period or no loss of consciousness (LOC), brief periods of post-traumatic amnesia (PTA), and lack of structural damage to the skull or brain (Binder, 1986). For the purpose of this discussion, mild closed head injury is defined as loss of consciousness less than 15 minutes; confusion less than 48 hours; amnesia less than 12 hours; headaches less than 14 days; and no damage to skull or brain as assessed by CT or EEG. These criteria are in accordance with the aviation neurology regulations (see Appendix A) and approximate those of other established schemes.

## AEROMEDICAL SIGNIFICANCE OF MILD CLOSED HEAD INJURY

Flying is a complex activity that requires overall cortical integrity. As Firth (1983) notes, flying requires "continuous assessment of complex flight situations under conditions of varying and often conflicting distraction and the ability to make correct decisions on appropriate and selected data at the right time, and to execute these decisions safely" (p.604). Obviously, the whole brain is involved in these activities but it is evident from this description that the executive and sensory integration capabilities of the brain are critical to flying. These are also the precise functions which are typically impaired with a CHI as a result to injury to the frontal and temporal poles, corpus colosum and stem.

The aviation environment is an environment in which the aviator is inherently at high risk for closed head injury. In addition, aviator lifestyles usually include recreational activities (e.g., contact sports, motorcycles) in which there is greater risk of head injury. Such activities can frequently result in very mild concussive head injuries, the so called "ding" (Yarnell & Lynch, 1973), the adaptive significance of which may be dismissed as inconsequential by the neuropsychologist in the ordinary patient. Yet, mild concussive injuries with or without loss of consciousness may be of considerable aeromedical significance because the special stresses of the aviation environment (i.e., chronic fatigue, hypoxic stress, acute flying stress... subacute, excessive workload) may serve to exacerbate underlying or "subacute" deficits. For example, Erving et al. (1980) demonstrated that mild hypoxic stress (simulated hypobaric altitude of 3800 ft.) revealed deficits on vigilance and memory tasks (relative to controls) in asymptomatic students 1 to 3 years post-mild concussion. Thus, aeromedical assessment of adaptive functioning and fitness for flying duty cannot simply be based upon evidence of an apparent recovery indicated by the lack of overt residual deficits. Residual impairments which may be of potential aeromedical significance are not likely to be detected by the typical neurological evaluation. This underscores the need for thorough neuropsychological evaluation of even very minor concussive injuries in pilots prior to return to flying duties. The neuropsychological demands of flying may require neuropsychologists to attend to very subtle findings in the evaluation and consider the impact of these deficits on flight performance.

## AEROMEDICAL CONCERNS IN THE DISPOSITION OF AVIATORS WITH MILD CLOSED HEAD INJURIES

In general, the prognosis for return to flying duty in an aviator after head injury is good (Symonds & Russel, 1943). However, the decision to return a pilot to flying duties following a head injury requires special consideration to factors which influence the risk to aviation safety.

The primary factors which must be addressed in the aeromedical disposition of aviators who have sustained a closed head injury are the risk for sudden in-flight incapacitation and the significant compromise of a pilot's cognitive or psychomotor capabilities due to acute or chronic residual deficits (so called "diminished capacity"). In order to address these issues, aviators who have sustained a mild CHI must be grounded for a prescribed period of time (see Appendix A) and must complete a thorough neurological and neuropsychological evaluation.

The aeromedical neurological evaluation is primarily oriented to the question of the potential for in-flight sudden incapacitation. The greatest risk for this following mild CHI comes from the possibility of post-traumatic seizures.

Annegers et al. (1980) published the results of a comprehensive study of risk for the development of post-traumatic seizures in the general population. For subjects who had suffered a head injury (less than 30 minutes unconsciousness) the risk of seizure development was .1% in the first year, and .8% over a five-year period. These percentages do not constitute an appreciable risk to aviation safety according to Jones (1988).

An additional source of concern with respect to sudden incapacitation comes from unresolved symptoms of post-concussive syndrome (primarily headaches and dizziness). Studies reviewed by Binder (1986) suggest that these symptoms may persist for several months or longer in patients who have sustained even very mild concussive injuries and suggest that there are few reliable prognostic indicators. Aviators who have sustained mild closed head injuries and are still symptomatic following the mandatory grounding period are not returned to flying duty.

The evaluation of diminished capacity to perform flight duties is more complicated due to the difficulty assessing the adaptive significance of residual deficits and/or the exacerbation of mild deficits under the stresses of flying. These are issues in which the functional assessment of the aviator's cortical integrity by the neuropsychologist is most beneficial. For this reason, it is important for the neuropsychologist to be aware of several important clinical considerations in the neuropsychological evaluation of aviators prior to return to flying duties after head injury.

#### CONSIDERATIONS IN AEROMEDICAL NEUROPSYCHOLOGY EVALUATIONS

Special considerations in the neuropsychological assessment of aviators who have sustained a closed head injury generally fall under two categories: examination procedures and aeromedical significance of findings.

##### Examination Procedures

The neuropsychological evaluation of aviators after closed head injury is mandated under AR 40-501 (Chapter 4-23). This regulation requires that the aviator be grounded for a proscribed length of time after a head injury (see Appendix A) with assumption of flight duties contingent upon a normal neurological evaluation including skull x-rays, electroencephalogram, and neuropsychological test battery. Note that mild CHI as defined in this paper requires a minimum of four weeks grounding.

The regulation is vague with respect to the selection of a particular neuropsychological test battery, but there has been a clear preference at the Aeromedical Activity for the Dodrill Modification of the Halstead Reitan Neuropsychological Test Battery as a baseline, with additional procedures as dictated by clinical considerations. It is believed that this battery provides a thorough evaluation of neuropsychological functions and is very sensitive to subtle deficits. The neuropsychologist should select additional tests as necessary to assess specific neuropsychological functions thought to be critical to flying such as attention/concentration, memory, and executive functions.



Regardless of the neuropsychological procedures selected, the neuropsychologist should thoroughly review all available medical information about the injury and interview the patient very carefully. Although this is common practice in clinical neuropsychological evaluation, it becomes even more important in aviation consultations. Review of ER reports, admission summaries, nursing notes, and progress notes provides important objective sources of information to help establish time of LOC and PTA. Careful analysis of these sources of information and of the patient's own report will help to accurately classify the severity of the head injury according to aviation medicine regulations. Much of this should have already been accomplished by the flight surgeon.

A thorough history and review of flight records will also help to accurately establish premorbid level of functioning. In general, it is reasonable to expect aviators to have been above average in intellectual ability. But, there may be a great deal of variability because of the different routes to a career in Army aviation (e.g., "high school to flight school") and the diversity of backgrounds. The length of aviation service, type of aircraft flown, number of flight hours, and aeronautical ratings are all important indices of aviation adaptation.

As a rule, pilots are fairly good historians and fastidious in the maintenance of medical records. Thus, they are likely to have retained a wealth of information from civilian hospitalizations and/or procedures. This information should be obtained in addition to the pilot's military medical record.

With respect to the evaluation itself, rapport is essential. Thus, the evaluation should begin with an "in-brief" to thoroughly explain the neuropsychologist's role in the evaluation, the nature of the information generated, and the use of the data. When interviewing pilots, it is important to consider that they typically view it as the doctor's responsibility to find something wrong with them. They are not likely to volunteer information which may jeopardize their flight status. Thus, questionnaires and neuropsychological symptom inventories are not likely to yield useful data. Likewise, questions should not be "problem" oriented (i.e. "Have you noticed problems with your memory since your accident?") as these are likely to lead to denial. A more fruitful approach might be to ask about deficits in more benign ways and follow these up with more probing questions (e.g. "Would you say that you have been more absent minded of late? Do you feel as sharp mentally as usual? Are you as able as always to keep your mind on something that you're doing?"). Also, interview others who know the patient well and explore subtle residual symptoms.

Patterson (personal communication, June, 1988) recommends an alternative technique for the neuropsychological interview with aviators. He recommends that the interview be conducted last, after the neuropsychologist has all the test data scored. This serves two purposes. First, aviators tend to be more open about deficits because they are not sure what the results are; and second, it helps to avoid countertransferential feelings from entering the evaluation process. The neuropsychologist may be in the unenviable position of having to terminate a pilot's career. This potentially agonizing decision must be made as objectively as possible. Aviation is more than a job most pilots; it is an integral part of their identities. It is important to understand this and be empathic; however, it may be potentially disastrous to allow positive feelings for the patient, or sympathy with his situation, to interfere with objective decision-making. This is especially important because there are no hard and fast guidelines for disposition in aviation neuropsychology.

## Aeromedical Significance of Neuropsychological Test Results

There are several important issues to bear in mind in evaluating neuropsychological test results for aeromedical disposition in cases of closed head injury. The first issue concerns the over-reliance on summary indices of impairment in deciding the presence of neurobehavioral dysfunction. Cripe (1987) has detailed the most important problems inherent in this practice in clinical neuropsychology. With aviators who have suffered mild closed head injuries, such indices are likely to be well within the normal range four weeks post-concussion. Nevertheless, there may be important deficits in specific neuropsychological functions which may be of considerable aeromedical significance and warrant continued grounding.

Other important considerations to bear in mind with the use of impairment indices with aviators is that aviators tend to be above average in intellectual ability, and the established norms for the impairment indices may not accurately discriminate within this range (Cripe, 1987). Thus, neuropsychologists may have to modify their interpretation of these indices with flight personnel. According to Cripe's data, average Halstead Impairment Index (HII) within this range is less than .2, and the average Dodrill Discrimination Index is less than 20 %. Also, U.S. Air Force data indicates that the mean HII among pilots is .14 while data on a small number of Army aviators indicates that the mean HII is .24 (Guilmette & Treanor, 1986). Impairment indices much higher than these (but still WNL) should raise the neuropsychologist's index of suspicion.

This also raises the issue of special pilot norms for neuropsychological tests. Included in the Appendices are norms based upon Air Force and Army pilots. It is important to bear in mind that these norms probably do not adequately represent the typical pilot in the Army who is likely to be a Warrant Officer with an Associate's degree. These norms best apply to more highly educated commissioned officers. The neuropsychologist must consider the adaptive significance of any impaired test performance or specific neuropsychological function recognizing that neuropsychological testing is accomplished under ideal conditions, and the aviation environment is likely to exacerbate underlying deficits. Although it is not possible to address the relative importance of the specific neuropsychological functions necessary for effective aeromedical adaptation, certainly deficits in attention/concentration, memory, or executive functions are particularly significant. The issue of localization is less important than that of chronicity.

The aeromedical neuropsychological disposition of aviators with closed head injuries can range from permanent disqualification to return to full-flying duties (RFFD). Restrictions can be imposed upon flying duties (e.g., dual status only, simulator duties only) but these can adversely impact the aviator's career and must be used with discretion. Continued grounding to monitor recovery of function or adaptive significance of residual impairments is also an option. However, it is important to know that once an aviator is grounded for longer than 6 months for a medical condition, that individual is permanently disqualified from aviation service and aviation career incentive pay (flight pay) is terminated. The patient then requires a waiver of the condition from the Aeromedical Center at Fort Rucker, Alabama, to return to flying duty. Such considerations, although important, should never be of primary concern in disposition. Safe performance of flying duties is the number one consideration always. This must take into account neuro-

psychological status, flight experience, and type of flying duties performed (aircraft, co-pilot, instructor pilot, etc.) at a minimum.

## CASE ILLUSTRATIONS

### Case 1

Relevant History. B.F. is a 41 year-old, right-handed white male who was referred for neuropsychological evaluation in support of return to full flying duties (RFFD) following a mild closed head injury.

On 21 July 86, B.F. sustained a CHI when he apparently slipped on a stair while climbing out of his swimming pool. He is unsure of LOC and there were no witnesses. According to the patient, he remembers exiting his pool after his usual morning swim, then finding himself crawling on the pavement toward the house. Upon regaining consciousness, he went inside to get ready for work. He noted that he was about 15 minutes behind his usual schedule. He reported that he had a slight headache, was slightly dizzy, and forgetful. He finished dressing and drove himself to the emergency room.

At the ER, he was noted to be oriented, but with some difficulty concentrating. There was an abrasion over the left frontal area, but neurological exam (including skull x-ray) was WNL. He was grounded by the flight surgeon and placed on quarters. Continued evaluation over the next several days did not reveal any neurological or structural abnormalities.

B.F. is a CW4 and an experienced aviator with over 10,000 hours of flight time. He flew numerous combat missions in RVN, and is rated as a Standardizations Instructor Pilot in the AH-1S (Cobra). At the time of his injury, he had completed the AH-64 (Apache) transition course and was awaiting instructor pilot training for that aircraft.

B.F. is divorced and lives with his teen-age son. He holds a BS in political science and completed 2 years of law school prior to entering the Army. He has approximately 16 years of military service, all as an aviator. There is no history of significant medical or neurological difficulties in the past. No history of psychiatric problems. Alcohol use is moderate and consists of 2-3 beers several times per week.

B.F. denies persisting symptoms of PCS. He reported that he did experience headaches for about 2 days after the injury. Upon closer examination, he admits to some difficulty concentrating when he is reading and some tendency to be more "absent-minded" of late.

Results. On 12 Aug 86, B.F. was administered a full Halstead-Reitan neuropsychological evaluation in support of RFFD IAW AR 40-501. The results are displayed on the summary sheet. Although this patient's HII of .3 is WNL, it is slightly higher than expected given his intellectual functioning and premorbid status. Also, two of the four most sensitive indicators of neurobehavioral dysfunction from this battery are impaired (TPT Localization, HII). Thus, there is evidence of neurobehavioral dysfunction.

With respect to impairment of specific neuropsychological functions, B.F. performs less well than expected on the immediate and delayed trials of the Logical Memory subtest of the WMS. In addition, verbal fluency is somewhat lower than expected of an individual of his educational level and verbal ability. Also, his performance on the TPT is impaired and much slower than would be expected for an aviator of his abilities.

Recommendations. The pattern of test results indicates neurobehavioral deficits consistent with acute residual deficits secondary to a closed head injury. The results suggest difficulty with verbal semantic memory, verbal fluency, and tactical problem-solving speed. These results suggest a rather general neurobehavioral process typical of CHI with some involvement of anterior left and posterior right functions (contre-coup) consistent with the injury. It was recommended that this patient not be returned to full flying duties at this time and that he be re-evaluated in three months to determine change in his neuropsychological status.

On 20 Oct 86, this patient was administered the Dodrill modification of the HRNB. At that time, none of the tests were impaired. Memory functions and tactical performance were WNL and much more reflective of this patient's premorbid status. It was concluded that there was no evidence of residual deficits from his CHI and B.F. was recommended for RFFD. Follow-up 12 and 18 months later indicated no residual adaptive difficulties. The patient was working as an AH-64 instructor pilot at Fort Rucker, had remarried, and had experienced no problems with memory or concentration.

# CASE 1

## NEUROPSYCHOLOGICAL EXAMINATION RESULTS

NAME CW4 B.F. DATE 12 Aug 86 AGE 41 SEX M DOB 17 Jun 45  
 EDUCATION 2 yrs. law DOM HAN R R RACE W

### WAIS-R

FSIQ 128  
 PIQ 119  
 VIQ 127

I 14 PC 10  
 DS 16 PA 13  
 V 14 BD 11  
 A 12 OA 12  
 C 15 DSy 14  
 S 13

TRAILS A 25 " 0 ERR  
 TRAILS B 48 " 0 ERR

### DYNAMOMETER

Dom 48.5 KG  
 Nondom 46.5 KG

### IMPERCEPTIONS

Tactile RH      LH      BOTH RH      LH       
 RH      LF      BOTH RH      LF       
 RF      LH      BOTH RF      LH     

Auditory RE      LE      BOTH RE      LE     

Visual RV      LV      BOTH RV      LV     

TFR R 1      2      3      4      5       
 L 1      2      3      4      5     

FTW R 1      2      3      4      5       
 L 1      2      3      4      5     

FR R      L     

### WECHSLER MEMORY SCALE (Russell revision)

	Semantic	Figural
recall	<u>18</u>	<u>14</u>
1/2 hr.	<u>12</u>	<u>14</u>
% ret.	<u>67</u>	<u>100</u>

### WRAT- R

	Standard Scores	Range
Reading	<u>117</u>	<u>Hi Avg.</u>
Spelling	<u>111</u>	<u>Hi Avg.</u>
Arith.	<u>99</u>	<u>Avg.</u>

Stroop II     

Stroop I     

D =     

### HRNTB

Category Test  
 Errors 18

### Tactual Performance Test

Dom Hand 8.2  
 Nondom Hand 5.7  
 Both Hands 3.0

Total 17.0  
 Memory 10  
 Local 4

### Seashore Rhythm Test

Raw 29  
 Rank 1

### Speech Perception Test

Errors 3

### Finger Oscillation Test

Dom Hand 60.2  
 Nondom Hand 54.8

IMPAIRMENT INDEX .3

### APHASIA SCREENING TEST

Errors 0

### SELECTIVE REMINDING TEST

LTS 118  
 CLTR 116

### REY COMPLEX FIGURE TEST

Copy wnl  
 3'delay wnl

### WORD FLUENCY TEST

F 13 A 5 S 16

### MMPI

L	<u>50</u>	Mf	<u>54</u>
F	<u>52</u>	Pa	<u>62</u>
K	<u>64</u>	Pt	<u>47</u>
Hs	<u>47</u>	Sc	<u>54</u>
D	<u>51</u>	Ma	<u>55</u>
Hy	<u>54</u>	Si	<u>38</u>
Pd	<u>64</u>		

SDMT W      Hooper     

O      Tonal

# NEUROPSYCHOLOGICAL EXAMINATION RESULTS

NAME CW4 B.F. DATE 20 Oct 86 AGE 41 SEX M  
 DOB 17 Jun 45 EDUCATION 2 yrs. law DOM HAN R RACE W

WAIS-R From 12 Aug 86

HRNTB

FSIQ 128  
 PIQ 119  
 VIQ 127

Category Test  
 Errors 8

I 14 PC 10  
 DS 16 PA 13  
 V 14 BD 11  
 A 12 OA 12  
 C 15 DSy 14  
 S 13

Tactual Performance Test  
 Dom Hand 3.7  
 Nondom Hand 3.0  
 Both Hands 1.9  
 Total 8.7  
 Memory 9  
 Local 6

TRAILS A 22 " 0 ERR  
 TRAILS B 48 " 0 ERR

Seashore Rhythm Test  
 Raw 30  
 Rank 1

DYNAMOMETER  
 Dom 47.5 KG  
 Nondom 45 KG

Speech Perception Test  
 Errors 3

## IMPERCEPTIONS

Finger Oscillation Test

Tactile RH      LH      BOTH RH      LH       
 RH      LF      BOTH RH      LF       
 RF      LH      BOTH RF      LH     

Dom Hand 60  
 Nondom Hand 56

Auditory RE      LE      BOTH RE      LE     

IMPAIRMENT INDEX 0

Visual RV      LV      BOTH RV      LV     

APHASIA SCREENING TEST  
 Errors 1 (calc.)

TFR R 1      2      3      4      5       
 L 1      2      3      4      5     

SELECTIVE REMINDING TEST  
 LTS       
 CLTR     

FTW R 1      2      3      4      5       
 L 1      2      3      4      5     

REY COMPLEX FIGURE TEST  
 Copy       
 3'delay     

FR R      L     

## WECHSLER MEMORY SCALE (Russell revision)

WORD FLUENCY TEST  
 F 14 A 9 S 13

Semantic Figural  
 recall 33 14  
 1/2 hr. 33 14  
 % ret. 100 100

MMPI  
 L      Mf       
 F      Pa       
 K      Pt       
 Hs      Sc       
 D      Ma       
 Hy      Si       
 Pd     

WRAT- R From 12 Aug 86  
 Standard Scores  
 Reading 117  
 Spelling 111  
 Arith. 99

Range  
 Hi Avg.       
 Hi Avg.       
 Avg.     

Stroop II 206

SDMT W      Hooper 28  
 O      Tonal 29

Stroop I 88

D = 118

## Case 2

Relevant History. CPT P.A. is a 31 year-old, right-handed, white male who was referred for neuropsychological testing after suffering a mild closed head injury on 8 Jan 88. At about 3:30pm, P.A. was playing frisbee with some friends when he fell and banged his head on the left frontal area. He reportedly did not lose consciousness, but his friends told him that he was disoriented and kept asking questions over and over. After the game, the patient drove himself home and took a shower. About 6 p.m. that evening, his wife became concerned about his forgetfulness and drove the patient to the emergency room for evaluation. The patient cannot clearly recall the events between the injury and the emergency room visit; however, his recall of events prior to the injury is good as is his recall of events after being brought to the ER. PTA is estimated to be about 3 hours.

Patient was evaluated at the ER. Neurological exam was WNL, to include skull x-rays. Patient was grounded by the flight surgeon for further evaluation and released from the ER. An EEG on 10 Feb 88 was WNL. Neurological exam on 2 Mar 88 was WNL.

The first day after the accident, the patient reports that he failed an exam in the training course in which he was enrolled (Aviation Officers Advanced Course). He had not failed any exams previously. He felt that he was "slower" that day than usual, but that it was also the toughest exam that he had experienced in the course. He reported that he experienced headaches for approximately 2 weeks following his accident.

CPT P.A. was a student at Fort Rucker at the time of his accident. Since March 87, P.A. has been a CH-47 (Chinook) pilot in the Pennsylvania National Guard. Prior to this, he had been on active duty since 1979. Initially, he was commissioned in the MP corps, but he was selected to attend flight school in Nov 82. He graduated in Aug 83 and reports that he was "set back" once for failing an instrument checkride. P.A. has 587 flight hours; his flight records were not available for review.

CPT P.A. holds a BA degree in law enforcement. He reports that he has always had difficulty in school. He had difficulty learning to read as a youngster and was in remedial reading classes in grade school. He stated that he was a slow reader in high school, but maintained average grades. He has been married for the past 8 years. He does not currently have a job, but plans to go back to Pennsylvania after the advanced course and seek work in law enforcement. Medical history is unremarkable. Neurological history is remarkable for a head injury at the age of 5 when he fell out of his bed and struck his head on a dresser. He reports that there was no LOC. He recalls a doctor taking x-rays and believes there was a fracture behind his ear, but he was unsure of which side. He only recalls having a large bump on his head.

Results. P.A. was administered a full neuropsychological battery in support of RFFD on 29 Feb 88, approximately 7 weeks post-concussion. The results of the evaluation are displayed on the summary sheet.

The Halstead Impairment index is .3 and the Dodrill Discrimination index is .20. These are both within normal limits, and although they may be higher than expected for an aviator, they are consistent with his intellectual abilities. None of the 4 most sensitive indicators of impairment from the HRNB are impaired. The written portion of the SDMT reflects impairment. As a whole, however, there is no evidence of a generalized neurobehavioral syndrome.

With respect to impairments of specific neuropsychological functions, it is evident that fine motor speed in the dominant (R) hand is impaired. Most notable, however, are language deficits manifested by dyslexia, spelling dyspraxia, and dysgraphia on the Aphasia Screening Test, and difficulty discriminating phonemes. Also, there were symbol reversals on the SDMT and P.A. was slow reading the words on the Stroop part I. The WRAT-R reflects rather severe impairment of expressive language functions.

As a whole, the pattern of results is not consistent with acute residual deficits of a CHI. The impairment is localized to left hemisphere functions and reflects long-standing problems with language functions possibly as a result of auditory discrimination difficulties. These deficits may relate to P.A.'s childhood injury, but this is speculative. In any event, the findings are static and well-compensated.

Recommendations. P.A. was recommended for RFFD. Although it is almost incomprehensible that an individual could progress as far as P.A. in the military and in aviation, given his language deficits, there were no residual deficits from his injury to warrant disqualification or continued grounding.

This case raises an important issue in aviation neuropsychology: At what point do pre-existing deficits become cause for disqualification. Certainly, there must be some increased safety risk for an individual with such pronounced language problems. The issue is best left as an administrative one. Aeromedically and neuropsychologically, P.A. can be considered to have made a successful adaptation to aviation. He is a functional aviator. Any judgment of his capacity to fly must be left to those personnel responsible for evaluating the performance of aviators.



## Case 2

## NEUROPSYCHOLOGICAL EXAMINATION RESULTS

NAME CPT P.A. DATE 29 Feb 88 AGE 31 SEX M  
 DOB 24 Nov 56 EDUCATION BA DOM HAN R RACE W

WAIS-R

FSIQ 106  
 PIQ 112  
 VIQ 103

I 11 PC 8  
 DS 10 PA 11  
 V 12 BD 16  
 A 9 OA 13  
 C 12 DSy 10  
 S 12

TRAILS A 23 " 1 ERR  
 TRAILS B 39 " 0 ERR

## DYNAMOMETER

Dom 48 KG  
 Nondom 46 KG

## IMPERCEPTIONS

Tactile RH      LH      BOTH RH      LH       
 RH      LF      BOTH RH      LF       
 RF      LH      BOTH RF      LH     

Auditory RE      LE      BOTH RE      LE     

Visual RV      LV      BOTH RV      LV     

TFR R 1      2      3      4      5       
 L 1      2      3      4      5     

FTW R 1 1 2      3      4      5       
 L 1 1 2      3      4      5     

FR R      L     

## WECHSLER MEMORY SCALE (Russell revision)

	Semantic	Figural
recall	<u>30</u>	<u>14</u>
1/2 hr.	<u>26</u>	<u>14</u>
% ret.	<u>87</u>	<u>100</u>

## WRAT- R

	Standard Scores	Range
Reading	<u>73</u>	<u>Borderline</u>
Spelling	<u>60</u>	<u>Deficient</u>
Arith.	<u>97</u>	<u>Average</u>

Stroop II 205

Stroop I 97

D = 108

HRNTB

## Category Test

Errors 17

## Tactual Performance Test

Dom Hand 2.6  
 Nondom Hand 1.6  
 Both Hands 1.1

Total 5.3

Memory 10

Local 10

## Seashore Rhythm Test

Raw 29

Rank 1

## Speech Perception Test

Errors 10

## Finger Oscillation Test

Dom Hand 48

Nondom Hand 50

IMPAIRMENT INDEX .3/DDI=.20

## APHASIA SCREENING TEST

Errors 3 exp = 2; rec = 1  
 - const. dysp.

## SELECTIVE REMINDING TEST

LTS 117

CLTR 112

## REY COMPLEX FIGURE TEST

Copy wnl (careless)

3'delay wnl

## WORD FLUENCY TEST

F 11 A 16 S 12

## MMPI

L	<u>    </u>	MF	<u>    </u>
F	<u>    </u>	Pa	<u>    </u>
K	<u>    </u>	Pt	<u>    </u>
Hs	<u>    </u>	Sc	<u>    </u>
D	<u>    </u>	Ma	<u>    </u>
Hy	<u>    </u>	Si	<u>    </u>
Pd	<u>    </u>		

SDMT W 47 (rev) Hooper 27.5

O 60 Tonal 22 (8)

## SUMMARY

Aeromedical regulations mandate that aviators be thoroughly evaluated using neuropsychological tests after mild CHI. Frequently, neuropsychological testing will reveal deficits which may warrant continuation of the grounding period. In other cases, the testing may reveal long-standing deficits, the significance of which to flight status is unclear. In most cases, disposition of these cases must be administrative and based upon premorbid aviation adaptation.

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## Appendix A

## NEUROLOGY REGULATIONS

Complaint	Class 1, 1A			Class 2, 3			
	Permanent disqual.	2-yr wait	6-mo wait	Permanent disqual.	2-yr disqual.	3-mo disqual.	4-wk disqual.
Syncope	Unexplained	.....	.....	Until Rev	.....	.....	.....
Seizure	Any	.....	.....	Same	.....	.....	.....
Vascular Headache	Any	.....	.....	Same	.....	.....	.....
New Growth	Any	.....	.....	Same	.....	.....	.....
Craniotomy	Any	.....	.....	Same	.....	.....	.....
Bony Defect	Any	.....	.....	Same	.....	.....	.....
Encephalitis	6 yrs	.....	.....	Until Rev	.....	.....	.....
Meningitis	1 yr	.....	.....	Until Rev	.....	.....	.....
Metabolic Disorder	Until Rev	.....	.....	Same	.....	.....	.....
CNS Bends	Until Rev	.....	.....	Same	.....	.....	.....
EEG Abnormality	Until Rev	.....	.....	Specified	.....	.....	.....
Narcolepsy	Any	.....	.....	Same	.....	.....	.....
Peripheral							
Nerve Injury	Any	.....	.....	Same	.....	.....	.....
Vascular Problems	Any	.....	.....	Same	.....	.....	.....
Familial Disease	Any	.....	.....	Same	.....	.....	.....
Degenerative Disease	Any	.....	.....	Same	.....	.....	.....
Head Injury							
Bleeding	Any	.....	.....	Same	.....	.....	.....
Penetrated Dura	Any	.....	.....	Same	.....	.....	.....
Fragments	Any	.....	.....	Same	.....	.....	.....
CNS Defect	Any	.....	.....	Same	.....	.....	.....
EEG Abnormality	Due to Injury	.....	.....	Same	.....	.....	.....
Depressed Fracture	Any	.....	.....	Any	.....	.....	.....
Basilar Fracture	Any	.....	.....	LOC>2h	LOC 15m-2h	LOC<15m	.....
Linear Fracture	Any	.....	.....	LOC>2h	LOC 15m-2h	LOC<15m	.....
Post Trauma							
Syndrome	>48h	12-48h	<12h	>1 mo	2 wk-1 mo	48h-14d	<48h
Headaches only	>14d	7-14d	<7d	>1 mo	.....	>14d	<14d
Amnesia	>48h	12-48h	<12h	.....	>48h	12-48h	<12h
Confusion	>48h	12-48h	<12h	.....	.....	>48h	<48h
Loss of Consciousness	>2h	15m-2h	<15m	>24h	2-24h	15m-2h	<15m
CSF Leak	Any	.....	.....	>7d	.....	<7d	.....
Cranial N Palsy	Func Sig	.....	.....	Until Rev	.....	.....	.....

# Appendix B

## HALSTEAD-REITAN NEUROPSYCHOLOGICAL TEST BATTERY AIRCREW STANDARD

MALE	IMPAIRMENT INDEX	CATEGORY TEST	SPEECH-SOUNDS	SEASHORE RHYTHM	TPT-PH	TPT-NPH	TPT-BH	TPT-TT	TPT-MEMORY	TPT-LOCAL	TAP-PH	TAP-NPH	GRIP-PH (KG)	GRIP-NPH (KG)	TRAILS-A	TRAILS-B	
80							0	100				67	54	69	64	6	15
						25	10							66			20
							20	200				54	51	61	10		24
70					75	50							53	53			28
		4	1		100	75	40	300	10	10	61	59	60	55	14		32
		9			125		50							55	15		35
		12	1		150	100	60			9	59	55	57				40
60	0.03	16			175		70	400		8			54	52	22		44
	0.07	20	2	30	200	125	80		3	7	55	52	51	49	25		48
	0.11	24	3	29	225	150	90	500		5	52	49	50	46	30		52
50	0.15	29		20	250		100		*	*	*	48	45	43	34		55
	0.19	32	4	27	275	175	110	600	9	5	49	48	45	43	34		60
	0.23	35			300		120						43	42	40	33	64
	0.27	40	5	25	325	200	130			4	45	43	42	40	33		68
40	0.31	44			350	225	140	700		3			39	37	42		72
	0.35	49	6	25	375		150		7	2	43	40	39	34	45		76
	0.39	52		24	400	250	160	800					35	34	45		80
30	0.43	55	7		425		170				40	37	33	31	50		84
	0.47	60		23	450	300	180	900	6	0			30	29	54		88
	0.51	64	9	22	475	325	190				37	34	30	29	54		92
20	0.55	69			500								27				96
	0.59	72			525												
	0.63	75															

THE HIGHER THE T SCORE, THE BETTER THE PERFORMANCE

\* MEAN SCORE OF NEUROPSYCHIATRICALY NORMAL SAM AIRCREW MEDICAL REFFERALS

# Appendix C

## NEUROPSYCHOLOGICAL DATA—GUILMETTE & TREANOR

TABLE I. MEANS FOR AVIATOR AND CONTROL GROUPS ON WAIS-R VARIABLES.

WAIS-R Subtests	Aviator	Control
Information	13.6	13.5
Comprehension	11.6	12.8
Arithmetic	13.6	13.9
Similarities	11.2	11.8
Digit Span	10.7	12.6
Vocabulary	12.6	14.0
Picture Completion	10.8	11.2
Block Design	11.2	11.3
Picture Arrangement	11.4	12.4
Object Assembly	10.5	11.0
Digit Symbol	10.9	10.8
Verbal I.Q.	114.3	120.6
Performance I.Q.	110.5	113.6
Full Scale I.Q.	114.1	120.2

Note: On the WAIS-R, the mean for each subtest is 10, and the standard deviation is 3; the mean I.Q. is 100, and the standard deviation is 15.

TABLE II. MEAN SCORES FOR AVIATOR AND CONTROL GROUPS ON HRNTB VARIABLES AND ANCILLARY PROCEDURES.

Variable	Aviator	Control	Normal Range*
Category Test (errors)	32.5	24.5	≤50
Tactual Performance Test			
Dominant Hand, time (min)	5.2	5.0	
Nondominant Hand, time (min)	4.0	3.8	
Both Hands, time (min)	2.4	1.8	
Total Time (min)	11.7	10.7	≤15.6
Memory (No. blocks)	8.3	8.6	≥6
Localization (No. blocks)	5.3	6.0	≥5
Seashore Rhythm (errors)	2.9	2.4	≤5
Speech Sounds Perception (errors)	3.4	3.8	≤7
Finger Tapping - DH (taps·10s <sup>-1</sup> )	50.2	48.7	>49
Finger Tapping - NDH (taps·10s <sup>-1</sup> )	42.4	43.8	
Impairment Index	0.24	0.14	<0.4
Trails A, time (s)	20.6	20.4	
Trails B, time (s)	52.2	40.2	<89
Stroop I, time (s)	71.2	70.3	
Stroop II, time (s)	168.0	175.0	
Perdue Pegboard-DH	14.4	15.4	
Perdue Pegboard-NDH	14.5	14.6	
Perdue Pegboard-Both Hands	11.8	11.6	

DH = Dominant Hand; NDH = Nondominant Hand

\*Suggested normal ranges are available on a limited number of subtests and are based on research with normal and brain-injured groups (13).

## OCCUPATIONAL DISTRESS FOR HEALTH SERVICE PROVIDERS

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Providers of health services are at risk for becoming victims of occupational stress. A model of occupational distress will be developed as an interaction of the effects of personal factors, occupational stressors, organizational factors, and event stressors. The outcomes of the interactions will be examined. Support systems and types of interventions will be considered.

Duty-related stress has become a topic of considerable interest (Clever & Omenn, 1988; Hartsough & Myers, 1985). The field of occupational stress research has developed a number of themes to account for the causes of stress, but no clear, simple conceptualization of the problem has been accepted (Baker, 1985). A model of occupational distress as the interaction of the effects of personal factors, occupational stressors, organizational factors, and event stressors will be developed. The outcomes of the interactions will be examined. Support systems, types of interventions, and prevention programs will be considered.

### PERSONAL FACTORS

The background of the individual health service provider must be considered with respect to developmental stage, previous training, socialization during training, professional expectations, self image, and gender. The developmental stage includes the age of the individual, level of maturity, stage of psychosocial development, and stage in professional career. Training and previous experiences allow for the development of coping skills for managing stress reactions. With repeated traumatic events, there may be an accumulation of stressors which may result in burnout.

Individual expectations are important. What motivates an individual to choose a particular profession? What does the job mean? Why remain in the profession? How important is the job for one's self image and identity? What are the reinforcers and detractors?

Gender has become a consideration in the service professions. Dual career couples, single parents, nontraditional roles, and competing demands for time have become issues for both sexes. As more women move into once male dominated professions, how well will women advance and at what costs (both personally and professionally)?

### OCCUPATIONAL STRESSORS

Occupational stressors may include such factors as expectations, pressures, and demands. Expectations are affected by individual motivation and role responsibility. During crises, workers may be highly motivated to perform. However, during the periods of inactivity, sustaining high levels of motivation may be problematic.

The pressures affecting workers involve the working environment, time, work load, and amount of responsibility. The working environment may be hectic, noisy, physically and psychologically uncomfortable. Distractions include bystanders, the media, and untrained "helpers." Time pressures include nonstandard working hours, shift work, deadlines which may be crucial for saving victims. Work load can vary. The amount of work that can be accomplished in a given time may be problematic. Kahn (1980) segments workload into quantitative and qualitative types. During crises, there may be pressures to accomplish more than the time available allows; during down times, boredom and monotony can be disruptive (Pines, 1981). The unpredictability of work schedules may be unsettling. The amount of responsibility is burdensome for those with supervisory or command positions (Cobb, 1973). Having to choose among a number of tasks, all with high priority, creates difficulties and distress.

The demands on workers include physical, mental, and emotional factors. Physical factors of strength, stamina, endurance, and physical exertion may affect worker performance. The mental decisions needed during chaotic situations require clear thinking, good judgment, and the ability to set priorities. Problem solving skills diminish under pressure. Effectiveness in crises requires that emotions be kept under control. The pressure of making life-or-death decisions and working in the presence of strong feelings (anger, fear, rage) may be consuming. Health service providers may be reluctant to share their feelings with their families or co-workers. However, the feelings remain.

#### ORGANIZATIONAL FACTORS

Organizational factors involve organizational characteristics, organizational conflict, role conflict, role ambiguity, role discomfort, responsibilities, and workers' relationships. Organizations have a variety of missions. How clearly the missions of the organization are spelled out, how clearly the roles are defined, how adequate the training is for the personnel, how personnel are informed of what is expected of them, how supportive the organization is, what the reinforcers are within the organization -- all these help define the organization.

Organizational conflict and change are part of any bureaucracy. Conflicts can arise when the organization is composed of both professionals and volunteers, when there are pressures for changes within an organization, when there is some ambiguity about the chain of command (who is in charge), or when an organization has worked together for a limited time.

Role conflicts occur when there are competing demands. Health care workers are expected to remain calm despite provocations by irate victims; this may lead to the conflict between what is appropriate professional behavior and individual expectations. Other potential conflicts involve keeping emotions in check versus expressing feelings, loyalty to profession versus loyalty to organization (triaging versus treating individual patients), or going to work versus checking on the safety of one's own family. The role conflicts can be resolved through training and practice.

Role ambiguity arises when there is insufficient information about goals and responsibilities. The information provided about work roles must correspond to what is actually required in the job. Workers need to be informed about what is going on and how their work fits into the organizational mission.

Role discomfort occurs when personnel are working outside their usual roles. Practitioners may need to function as administrators or in other unfamiliar roles. Working outside of the accustomed role in an organization can be discomforting.

The role the individual plays in an organization is governed by the amount of responsibility and authority associated with the role. It is less stressful being responsible for things than for people. Personnel with limited participation in the decision making process report greater stress.

The relationships between co-workers, supervisor, and subordinates can be sources of discomfort. Issues may revolve around conflict between professionals as a function of the discipline in which each has been trained (physicians and nurses, psychiatrists and psychologists). Both lines of authority and roles need to be clearly spelled out.

#### EVENT STRESSORS

The type and nature of an event (rescue or recovery for victims of a flood, earthquake, air crash) will create different types of responses among the service providers. Event stressors may include personal loss or injury, traumatic stimuli, mission failure, and/or human error. Personal loss or injury may result from toxic substances being encountered, team members being injured during the mission, or physical exhaustion leading to severe fatigue or loss of function. Traumatic stimuli may be threatening. Examples include witnessing painful deaths, handling mutilated bodies, recovering the bodies of children, or seeing injured co-workers. Most service workers derive personal satisfaction from saving lives. Mission failures or human errors are distressing particularly when workers are prevented from providing effective action or perceive themselves as powerless and helpless.

#### OUTCOMES

The interaction between the different factors can result in a variety of outcomes. Some of the results can be rewarding and positive, particularly when the mission is successful. Other times the outcomes may cause personal dysfunction, impaired job performance, self destructive behaviors, or family conflicts. Personal dysfunction may affect physical health or mental health (or both). Mortality rates differ by occupational groups. A report from NIOSH (1978) examined mortality and morbidity rates for different occupations; seven of the top 40 occupations with the highest incidence of "stress-related disease" were health care fields.

Impaired job performance may be noticeable in increased accident rates, absenteeism, job dissatisfaction, turnover, individuals leaving a profession. Burnout (Maslach, 1976) describes the emotional exhaustion or depersonalization that may result over time.



Self destructive behaviors may include chemical or alcohol abuse, eating disorders, or other deviant behaviors. The feelings may be redirected outward toward family members. Marital discord, child abuse, violence, may indicate personal dysfunction. Suicide rates are significantly higher for health service providers than for other occupations.

Post-traumatic stress disorders may occur from traumatic events. The symptoms need to be recognized and managed effectively. Support systems become critical for preventing health providers from becoming victims themselves.

## SUPPORT SYSTEMS AND INTERVENTIONS

Support systems include family members, social and community organizations, churches, and interest groups. Organizational support efforts may include employee fitness programs, corporate wellness programs, employee assistance programs, or impaired professional group programs.

Training needs to be realistic to prepare personnel for what to expect during crises and to develop skills to allow performing the job and coping with the situation. Personnel need to learn behaviors appropriate to different situations. After critical incidents, personnel need to be debriefed to release feelings, to learn how to do better next time, to provide support where needed, to develop team building, and to plan and prepare for the next incident. Support systems need to be involved in training programs to prepare the support systems for what to expect. Communication needs to be emphasized.

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## A BRIEF HISTORICAL ANALYSIS OF COMBAT STRESS REACTIONS

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Wartime experience has helped in the development of effective means of managing stress reactions to the trauma of combat. This overview will examine some of the historical developments in the recognition, management, treatment, and prevention of combat stress reactions. As warfare has changed, so has the ability of soldiers to cope; with the increased lethality of the modern battlefield, soldiers sustain combat stress reactions sooner.

Men have fought each other since before recorded history. The military tactics frequently involved small units living together, preparing, training, fighting, and regrouping as groups or units. Strong, supportive bonds were often established between group members. The effects of unit cohesion and social bonding were recognized as early as 400 B.C. by Xeonophon (in Richardson, 1978). Other writers have documented the effects of morale and cohesion on military units (Crane, 1894; DuPicq, 1865; Marshall, 1947; Shils and Janowitz, 1948; Tolstoy, 1904). Cohesive units seem to provide some degree of protection to unit members against traumatic stress reactions.

As weaponry changed, so too did military tactics. The American Civil War demonstrated the effects of new weaponry (rifled canon, repeating rifles), mass movement of troops by railroad, and changes in tactics. Defensive trench works became complex networks; battles caused tremendous losses of personnel.

During the American Civil War, there was also a recognition of psychiatric illness recorded (Woodward, 1870); the stress reactions took the form of "insanity," "drunkenness," and "nostalgia." Over 5,000 cases were hospitalized for "nostalgia," a condition characterized by "mild insanity caused by disappointment and longing for home" (Deutsch, 1944). Rosen (1975) examined the evolution of nostalgia as a psychological disorder. The earliest reference to nostalgia made by Hofer appeared in 1678. "Nostalgia" described the distress of soldiers taken away from their home villages. The most effective treatment described was assuring the soldier he would be returned home.

As medical personnel became more familiar with mental disorders, psychiatric nomenclature became more uniform. As more cases were recognized and reported in different military campaigns, the similarities between wartime conditions became more apparent.

World War I brought new advances in weaponry and tactics. Trench networks and machine guns stalled the combatants. Continuous artillery bombardments prolonged the conflict while millions of soldiers died. "Shell shock" became the label for soldiers coping with the stresses of trench warfare (Bailey, 1918; Glass, 1966).

Early during World War I, a natural field experiment occurred in treatment procedures. The British forces evacuated their psychiatric casualties to England, while the French treated their stress casualties near the battle

lines. By treating the troops close to the fighting and by maintaining the casualties as soldiers rather than as patients, the French returned about 90% of their psychiatric casualties to duty; the English returned very few evacuees during the beginning campaigns. When the American Expeditionary Force entered the war, a psychiatric hospital was established close to the lines. The effectiveness of forward area treatment in World War I ranged from 40 to 70% of the combat psychiatric casualties being returned to some type of duty (Appel, Beebe, & Hilger, 1946). The lessons learned in wartime were comprehensively reported in the medical literature (Bailey, Williams, Komora, Salmon, & Fenton, 1929; Brown & Williams, 1918).

Following World War I, psychiatric treatment facilities became part of peacetime American military medical care (Glass, 1966). Unfortunately, there was no preventive psychiatry program in medical school curricula; the emphasis was on treatment rather than prevention.

With the outbreak of World War II, the United States military was not prepared for the large numbers of psychiatric casualties sustained in combat in North Africa. It was not until November 1943 that psychiatrists were returned to the staffs of forward combat units.

The intensity, nature, and duration of combat influence the number of stress reactions. The loss of significant manpower early in World War II in the North African campaigns became critical (Appel & Beebe, 1946). As more battalion surgeons were trained in appropriate psychiatric treatment principles, greater numbers of psychiatric casualties were returned to duty. In World War II, 40 to 60% of combat neuropsychiatric casualties were returned to full combat duty, and an additional 20 to 40% were returned to combat support duties (Appel, Beebe, & Hilger, 1946).

Stress reactions in or out of combat represent adaptive mechanisms for coping with abnormal circumstances. If troops believe breaking down in combat indicates mental illness, that expectation may be acted out in stereotyped, abnormal behaviors. The labels describing stress reactions may lead both the soldiers and the treatment providers to anticipate bizarre types of behavior.

The labels used for stress casualties had a powerful suggestive influence on the health care providers as well. If combat neuropsychiatric casualties were seen as suffering from physical conditions such as "shell shock," "concussion," "psychoneuroses," or "war neuroses," it was difficult to promote an expectation of successfully returning a soldier to duty. During World War II, new labels were introduced such as "combat exhaustion" and "combat fatigue." These labels suggested a more rapid recovery was possible. The third edition of the American Psychiatric Association (1980) Diagnostic and Statistical Manual uses the terms "transient battle reaction" and "battle fatigue" to describe combat stress reactions; the term "posttraumatic stress disorder" is more broadly employed "following a psychologically traumatic event that is generally outside the range of usual human experience."

Effective treatment of combat stress reactions depends upon recognition of the symptoms and prompt intervention. The treatment principles of proximity, immediacy, and expectancy demonstrate the effectiveness of treating combat stress casualties near the fighting (Proximity), as soon as possible (Immediacy), as soldiers rather than as patients, with the expectation that the soldier would be returned to his unit as soon as possible

(Expectancy). Soldiers are reassured that their reactions are normal for the abnormal situation of combat, that with rest and food they will recover, and they will return to the units to support their peers. Having appropriate treatment interventions for combat stress casualties affects the rates of return to duty in combat areas.

Selected means of preventing combat stress reactions include promoting cohesion in units; offering realistic training; instilling confidence in weapons, equipment, and missions; and providing realistic information and effective leadership to the troops. Realistic training, prompt recognition, intervention, and management are critical elements.

The lessons learned with respect to recognizing, managing, and treating stress casualties in combat settings have been transferred to the civilian sector for victims of traumatic events (rape, crime, accident, terrorism). Though the stimulus events may differ in civilian settings, the treatment principles are comparable. Effective outcomes depend upon recognition and prompt intervention for the psychic trauma.

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## ASSESSMENT STRATEGIES FOR VICTIMS OF TRAUMATIC STRESS OR CRISIS

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Crises come suddenly and unexpectedly, and they leave in their wake victims who have responded with a set of behaviors and emotions that is a product both of the event and of the personality structure of the individual and the social context in which the event occurred. What we as clinicians should be able to provide at this time is a rapid assessment of the victim's present status, a prognosis and a treatment plan to facilitate the process of recovery. It is important to recognize that the first contact with a victim is the most critical element of the treatment process. In this paper, I would like to focus on understanding the roles of (1) the victim's personality structure, (2) the event itself, (3) the victim's prior experiences with such stressors, and (4) the support systems available.

The following states of emotional adaptation usually follow a crisis: (1) the individual is numbed by the event and is in an altered state of consciousness, and (2) as the full impact of the crisis is felt, there is a deterioration in the victim's cognitive intellectual functioning. After this period of disorganization or confusion, (3) the victim may try to recover from the crisis through the use of his defensive resources. If these fail, (4) the victim may fall into a deeper state of depression or agitation.

The crisis workers must initially expect to devote considerable energy to assessing these factors and developing an emotional bond with the victim in order to integrate the available information rapidly and develop a treatment intervention. It should be clear that our purpose is not diagnosis per se, since the victim's response may not be pathological but a normal response to a traumatic event. We must also recognize that our responsibility is to achieve a rapid reintegration of the victim's emotional and cognitive capabilities. The following events or actions must take place at the first contact with the victim.

1. The initial contact should include an assessment of the following standard aspects of personality integration: appearance, extent of physical injury, overt behavior, thought content, reality contact, affect, and emotional readiness.

2. However, the real crux of this assessment process is the ability of the crisis worker to develop rapport and credibility with the victim; if this is not achieved the subsequent steps become inconsequential. The process depends on the integrity of the therapist's own personality, his experience with similar crises, and his ability to model the desired behavior for the victims. Fortunately, victims of such crises are already in an altered state, similar to that found during hypnosis, and the mind set is one of uncritical acceptance or heightened suggestibility. Anything or anyone that provides structure or order to the victim's surroundings is grasped and often becomes set in the victim's mind. It is important that the first people reaching the scene remember this fact--crisis workers must be careful with their off-hand remarks or other verbalization of their own defensive reactions because of this

highly sensitive and susceptible nature of victims. Therefore, initial contact with victims must provide the model for a series of desired outcomes and expectations. Consequently, they should (a) show confidence, (b) establish rapport, (c) set tangible goals, and (d) provide clear directives for reaching these goals. These must be accomplished in an atmosphere of (a) empathy, (b) realistic outcomes and (c) imagery.

3. The bonding process is a normal part of the therapeutic intervention and often provides an emotional grounding for the victim's anxiety so that the crisis worker can conduct the basic system review. This review of significant aspects of the victim's premorbid adjustment is essential, not only for delineating the event's impact on the victim's behavior, but also to provide a basis for selection of the most effective intervention techniques based upon the individual's own emotional resources.

With this systems assessment in hand, a process for personality reintegration can be developed using the following procedures:

- a. Accept anxiety as a real experience and not as a sign or symptom of insanity.
- b. Let the victim experience the anxiety and watch it in a detached manner, using the rating process as a means of dissociation.
- c. Eventually bring breathing and anxiety under control.
- d. Expect anxiety to reoccur; it is a part of the life cycle of experiencing traumatic events. Be aware of its signs, and be prepared to handle it when it reoccurs.
- e. Make interventions realistic, time limited and concrete, so that the individual can chart progress and re-establish his sense of control.

This conceptual framework for predicting crisis responses provides a way of assessing how an individual may react to a crisis and why some people have a higher tolerance for crises than others. In other words, the probability of a crisis situation occurring is a function of not only the event, the victim's personality and prior experience, but also of the support system available to him at that time. These factors determine the capability of the victim to manage the crisis experience and regain control. It should also be noted that this process is applicable to those working with victims of trauma and may provide a basis for improved training of crisis workers.

In summary, the crisis worker who deals with victims of traumatic stress must recognize his basic responsibility for rapid assessment of the event, the victim, and the support systems available. Intervention is based on these essentials, and treatment expectations must be specific.

## POST TRAUMATIC STRESS DISORDER PERSPECTIVES ON ASSESSMENT AND TREATMENT

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This article discusses clinical considerations in assessing and treating Post Traumatic Stress Disorder (PTSD). Difficulties in correctly identifying PTSD as an underlying cause of a variety of seemingly unrelated symptoms and behaviors, as well as the idiosyncratic nature of an individual's response to a stressor are examined. A four component treatment protocol is described, with implementation depending on the recency of the traumatic event. Components include debriefing, learning self-calming strategies, re-evaluating assumptions and normalizing. Group work for PTSD sufferers and potential problems this approach offers are addressed. Two brief case examples illustrate the use of the four component treatment approach in dealing with PTSD.

Post traumatic stress disorder is a problem that has been given increased attention over the last few years. It was not explicitly defined within DSM-II and first found its place in its present definition in DSM-III (American Psychiatric Association, 1980). Some revisions have occurred in DSM-III-R (American Psychiatric Association, 1987) as a result of the active research efforts occurring at the present time, both nationally and internationally (Ochberg, 1988; van der Kolk, 1987). Even though the mental health field in general may have benignly neglected this area, since this problem is a serious and potentially life-long consequence of combat experience, those mental health professionals who work with military personnel have shown an increasing interest in the area of PTSD. The problem has been highlighted in particular by returning Vietnam veterans and problems associated with their reintegration into American society (Williams, 1987; Wolf, Keane, Lyons & Gerardi, 1987).

Aside from wartime, in which psychiatric/psychological casualties can tax the mental health system within the military, post traumatic stress disorder is also an important problem to be aware of and treat in peacetime. Military personnel out in the field are commonly exposed to dangerous situations in which accidents can occur, potentially triggering a post traumatic stress disorder. Everyday living situations that can give rise to PTSD also occur, such as being in a car accident, witnessing the death of a loved one, a hold-up, etc. They must be recognized as soon as possible and treated appropriately, since the sequelae of this disorder can be life disrupting and may lead to a significant decrease in performance of that individual as well as unnecessary suffering.

The definition of PTSD is fairly straightforward in DSM-III-R (American Psychiatric Association, 1987). Five criteria have to be met. The person experiences an event outside the range of everyday human experience that would distress almost anyone. The traumatic event is persistently reexperienced in dreams, memories, flashbacks or during events that resemble the traumatic situation in some personally significant way. Stimuli associated with the



trauma are avoided and/or the person becomes generally numbed. At the same time increased arousal, not evident before the trauma, is evident. These symptoms must be present for more than a month.

Even though the diagnostic criteria are straightforward, making a correct diagnosis often requires considerable clinical acumen. The initial presenting symptoms can obscure the problem unless the clinician is willing to presume the possibility of PTSD as a standard part of the assessment interview. At times, PTSD symptoms that might be treated rather than the underlying PTSD itself include substance and alcohol abuse, chronic anxiety and depressions, somatization, and acting out and antisocial behavior (Brown & Fromm, 1986). In fact, a number of students of post traumatic stress believe borderline personality disorders are actually a form of post traumatic stress disorder, and that we have simply not looked for the traumatic trigger (e.g., Herman & van der Kolk, 1987). It is also important to be aware that a catastrophic event is an intensely personal experience, that is, what may trigger post traumatic stress in one person may not in another, due to the idiosyncratic meaning an event might have to any one individual. A social history that includes a traumatic events history is critical in diagnosing this disorder and treating it. Often, patients will not talk about traumatic events in their lives without specific questioning regarding past trauma. Current difficulties in relationships, a feeling of alienation from others, and autonomic hyperactivity may be the only apparent symptoms in a chronic PTSD case (Nevman, 1987).

Treatment of PTSD is simple yet difficult. A number of problems need to be addressed. To help the patient regain a sense of mastery over the experience, it is important to review the event in detail: the facts, what the person was thinking and what he/she was feeling at the time and subsequently. As the patient relives the event in a safe environment, an increased sense of mastery tends to occur. Since the patient's assumptions about how the world operates have been violated, this is a critical aspect of treatment. In addition, it is useful to teach the patient a number of self-calming strategies, since autonomic hyperarousal is also a hallmark of this disorder. Techniques such as abdominal breathing (Schwartz, 1987), autogenic training (Luthe & Schultz, 1969), progressive relaxation (Bernstein & Borkovey, 1973) and other methods designed to decrease arousal are helpful. Also, the patient needs to develop some new explanations for the event in the context of his/her life. Here, a cognitive-behavioral approach designed to assist the patient in developing an as accurate as possible assessment of present events sharing characteristics with the traumatic event is useful. It is important during treatment to continue emphasizing self-control, normalization, and forgiving of oneself and others who participated in the catastrophic event. To this end it is also useful to keep treatment as brief as possible so as to prevent unnecessary dependence on the therapist and the therapeutic situation (Fairbank & Brown, 1987; Flannery, 1987; Griffin, 1987; Janoff-Bulman, 1985 & Merwin & Smith-Kurtz, 1988).

Treatment protocol is dependent primarily on the recency of the traumatic event, and the severity of it. Preferably, individuals who have experienced a traumatic event are treated preventively before they develop the full blown disorder. This involves a "critical incident debriefing," in which the patient goes through the event "frame by frame," talking out not only the events, but also thoughts and feelings during and after the traumatic event. Reactions to the trauma are normalized. This method is now routinely used with police and firefighters after catastrophic emergency situations. Unless there is a

question of guilt in the situation, groups of individuals who have participated in the emergency situation can be debriefed (Mitchell, 1983). As the disorder takes shape after the event, more of the treatment strategies mentioned above come into play. In less recent post traumatic stress, talking the event out may not be enough. The patient may have conditioned him/herself both physically and psychologically so that some self-calming strategies are necessary to reduce the overarousal. As the traumatic event is further and further removed from treatment, the problem appears to become more and more integrated into the personality organization of the individual, and therefore be more difficult to treat. With long term PTSD, helping the patient change his/her world view is generally the major issue. The person may think of the world as an unpredictable and dangerous place, a perspective, that because it is partially true, is difficult to modify.

PTSD victims have been treated both individually and in groups. Certainly Vietnam veterans have been treated at times at length in "Vet Centers" that involve considerable group work (Jelenik, 1987; Wilson, 1988). I have some reservations about this group work for a number of reasons. The individual is likely to develop a strong group identity with other individuals who have experienced similar traumatic events. Although the person finally feels understood and sees that he/she is not "crazy," the patient may identify with the group to the exclusion of the rest of the world, which then becomes a problem in its own right. Powerful social reinforcement within the group can also maintain the problem since the group experience becomes a major, affectively loaded way to connect with others. It is highly artificial and may prevent re-integration into everyday society. It might be most useful for traumatized individuals to have an opportunity to speak with others who have had similar experiences, but not put PTSD victims into long-term groups if the goal is to assist the patient to reintegrate into the everyday world as rapidly as possible.

Case Examples: A 48-year-old truck driver, while driving a wood chip truck, hit an oncoming car, killing two adolescent women. He walked around in a daze, and others arriving at the scene called the police and instituted emergency procedures. He was not physically hurt. After the incident, he could not drive, he took a medical leave from work, and was seen in non-specific psychotherapy for approximately two years. He continued to have explicit dreams around the event, as well as intrusive thoughts during the day. He became extremely irritable at home, and withdrew into heavy drinking. Marital troubles increased, as well as difficulties with his children. He stopped driving completely and was extremely anxious and obsessive. He stated that he could trust no one, and that the world had become a "crazy place." Three years after the accident, I began seeing him upon the recommendation of his worker's compensation caseworker. I saw him a total of 10 times over a 4-month period. Initially, the traumatic event was debriefed several times. He was taught a number of self-calming strategies to help reduce anxiety. He was also gradually taken off of Xanax (4 mg. per day). His anxiety arousing thoughts were identified, such as his conviction that it was extremely likely that he would be in another fatal accident if he drove. During early sessions, probabilities were assigned to being in a fatal accident, especially given how carefully he now drove. After the 5th session, he reported that he realized he could be anxious or not, that it did not affect what actually happened, especially in areas where he had no control. He stated that he realized events just happened, many things were simply not under his control, and this was OK. By the end of treatment, he stated that his anxiety was down to a 1 to 2 on a

10 point scale, compared to 10 before treatment. He had returned to school and obtained his G.E.D. and was now working towards becoming a drug counselor. He stated that his relationship with his wife had improved to the point where they were considering taking a vacation together again, and he felt considerably less irritable around his children, also discovering that they were much better behaved now.

This case illustrates the importance of treating PTSD specifically, rather than simply talking with the patient without specifically implementing treatment strategies designed to deal with the trauma directly. Individuals who have been traumatized tend to resist going over their traumatic experience in such a way that they can put it behind them, and may spend a great deal of time talking about other things such as secondary symptoms as a way to avoid this issue. Having some self-calming strategies was also critical in that he regained a sense of control over his own physiology as well as his thoughts and emotions. By the end of treatment his dreaming about the traumatic event had dropped in frequency from once every other night to approximately once every two months, and the dreams were much less disturbing to him.

Case Example: A 38-year-old Vietnam veteran who complained of depression and an inability to sustain positive long-term relationships with women. He had been a SEAL in the Navy and had been in a number of missions that involved assassinations, ambushes, and killing civilians. He had struggled for some time after leaving the military in the early 70s but now had a steady, responsible, well-paying job building on the electronics experience he had obtained in the military. One of his best friends had died in his arms when his platoon was ambushed during a raid executed in daylight so that they could be filmed by camera crews. Since the war, he had been in a number of relationships, had been married three times, and was prone to recurrent depressions. During the history taking, it became clear that he had a case of PTSD. The traumatic events during Vietnam were discussed at length, and he described them as if they had happened yesterday. He was then able to connect a number of feelings he had been dealing with, including alienation, guilt, and fear of ending of relationships with events in Vietnam. He decided he no longer wanted to act in that way, and started risking connecting with others without excessive clinging versus angry rejection. In a one year follow-up, he has not been significantly depressed since the 8-session treatment. He has decided to develop nonsexual friendships with females, as well as making friends with men. He no longer has nightmares about his Vietnam experience, though he dreams about that part of his life occasionally. He continues to work in his job.

This is a good example of an individual who coped with a case of PTSD as best he could without professional help, and even so experienced recurrent difficulties because of his traumatic experiences. The case illustrates that a post traumatic stress reaction is not necessarily severe enough to make the individual completely dysfunctional; that there are different degrees of severity of this disorder. Brief, PTSD-focused treatment helped him significantly, even though he did not initially identify his war experiences as the basis for his more recent difficulties.

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## PSYCHOLOGISTS IN SPECIAL OPERATIONS

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The following topics were briefed and discussed:

- (1) Introduction and historical perspective
- (2) Description of Special Operations soldiers
- (3) Roles and requirements of the Special Operations psychologist
- (4) Career alternatives for AMEDD psychologists in Special Operations
- (5) Future perspectives
- (6) Summary and conclusions

## MANAGING SURVIVORS OF FAMILY AND COMMUNITY VIOLENCE

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Mental health workers are occasionally confronted with a crisis situation which requires considerable preplanning and organization to manage. Situations in which an individual has experienced life threatening conditions associated with violence and disasters is one such condition. The following program was utilized to manage such a situation in Russellville, Arkansas, in December 1987.

The specific event involved Ronald Gene Simmons of Dover, Arkansas, killing 14 family members at his home and killing two people in Russellville, Arkansas. He also shot four other people during his "shooting spree" in Russellville. It is believed that the killings occurred over a 4-day period (24-27 December). The shootings in Russellville occurred in four different business establishments. The local mental health center was asked to provide assistance to local elected officials, local school system, and survivors of the shootings. The program outlined below was used to assist the survivors of the violence.

### THE PROGRAM

#### Personnel

Violent situations, such as the Simmons' case, are better managed as community crises than as mental health crises. Therefore, intervention strategies should be community oriented and directed as much as possible. Consequently, the first step in managing the crisis is to coordinate efforts of community officials. This was done by establishing a Community Steering Committee comprised of the senior elected official of the community (e.g., mayor), chief law enforcement official (e.g., chief of police or sheriff), a respected member of the local ministerial alliance, and director of the local mental health center. The senior clinician/senior coach/debriefing team leader was also a coordinating member of the team. The purposes of the Community Steering Committee are to 1) validate that the problem is a community problem and NOT a mental health problem, 2) provide government sanction of intervention activities, 3) insure public safety, and 4) manage the press in order to insure direct services personnel are not distracted. Another issue to be addressed may be preparing for management of "disaster busters" and offers of assistance from other agencies. In this situation, the community attempted to utilize community resources as much as possible and supplement those resources, as needed, with outside aide.

Once the Community Steering Committee had been established and was operational, the mental health team needed to clarify and establish its duties and responsibilities.

Chris Hatcher, Ph.D., is acknowledged as the consulting director of this program's implementation. His contributions of time, knowledge, and skills were invaluable.

One mental health team member was the public relations manager assigned to coordinate and manage public relations and media. All media contacts were managed through this person. No clinical work or direct contact with survivors is conducted by this person. The primary purposes of this position are to 1) keep the community appropriately informed and 2) prevent the media from disrupting clinical activities.

Closely related to the public relations manager work was the need to have a "telephone hot line" open in the mental health agency for calls from children and adolescents. Any calls should be addressed immediately. Children and adolescents often refuse to leave a number to call and may hang up while being requested to "hold." In this particular situation, several such calls were received in the mental health center.

Another mental health team member was the victim advocate for injured victims and family survivors of the deceased. The victim advocate has numerous duties that include 1) visiting injured victims in the hospital during visiting hours (inconspicuously and briefly), 2) arranging for victim advocate contacts in hospitals outside of immediate geographical area if needed, 3) contacting family members of survivors and victims and local mental health agencies outside the geographical area, 4) personally meeting funeral directors (as referral source for unusual grief reactions), 5) attend funerals, and 6) visit homes of victims and family survivors of the deceased (inconspicuously and briefly). The primary purpose of the victim advocate is to allow victims and family members to know that the community cares and is accessible, if services are needed. The purpose is achieved with personal introductions and as little intrusion as possible.

Another major contributor to the intervention effort was the Critical Incident Debriefing Team (Crisis Management Team) composed of a senior debriefing leader (senior coach or senior clinician) and two assistant debriefing leaders. The Critical Incident Debriefing Team has three primary responsibilities: 1) prepare for the debriefing session, 2) conduct the debriefing session, and 3) coordinate assistance after completion of the debriefing session.

Preparation for the debriefing session includes scheduling a "neutral site" for the debriefing. This site should not be associated with mental health or any other agency that suggests a special interest group in the crisis. The location should be easily identified as a community resource. The facility should have several exits in the event the media obtains information about the location of the debriefing. The extra exits provide victims and their families a means to exit the debriefing without encountering the media (if they choose). While the victims are exiting, the Critical Incident Debriefing Team leader will address the media in order to facilitate the victims private exits. However, all efforts should be made to insure that the media are unaware of the meeting place and time.

After a meeting place and possible meeting times have been established, the Critical Incident Debriefing Team meets with office managers, business owners, supervisors, etc. associated with the crisis to explain and offer debriefing team services. The team may often be accompanied by the chief law enforcement official to verify that services are offered legitimately by the community (the law enforcement official and management personnel have often become familiar in the initial stages of the criminal investigation). After



advising of the services available, offering services, and scheduling a debriefing time (if services are desired), the office manager is prepared for his/her role in the debriefing process. He/she is instructed in procedures to use as the leader of the debriefing session. He/she is to begin the session by indicating that "other communities and businesses have experienced similar trauma -- recovery in those communities has been facilitated with appropriate intervention -- the mental health people have offered help -- help will not be turned away -- 'I don't know if it's right, but (Crisis Intervention Debriefing Team leader's name) asked me to start off with where I was and how I remember it.'" The manager is to then recount his/her experience as factually and emotionally recalled.

Legal officials (e.g., police, prosecuting attorneys, etc.) may have an initial reluctance to participate because of possible, adverse effects of the debriefing on subsequent testimony. To date, research on this topic suggests that testimony actually becomes much clearer and more effective than testimony of victims that have not been debriefed. Legal personnel may be referred to several agencies that have experienced such debriefing processes to reassure that debriefing enhances testimony.

After arrangements have been completed for victims and survivors to attend the debriefing, the debriefing location must be prepared. The preparation will include 1) providing refreshments before and after the debriefing, 2) planning and using a seating arrangement that allows individuals to leave the debriefing session without embarrassment to themselves or others (e.g., unable to emotionally cope with the situation; need to use the bathroom; etc.), usually with chairs in a semicircle with backs to the exit, 3) seating the assistant team leaders to the back of the room behind the victims and survivors. In front of the group a table is placed upon which the office manager will sit to conduct the debriefing session. A table is placed in front of the group upon which the office manager will sit to conduct the debriefing session. The Critical Incident Debriefing Team leader will sit in a chair to the side of the manager in order to facilitate the session as required.

Upon arrival of the victims and survivors of the violence, the Critical Incident Debriefing Team leader coordinates with the office manager to identify a support member from the group (e.g., functional role in the natural support system as "mother-father-grandmother-grandfather"). The person will be used to provide support to anyone who appears unable to cope with the emotional content of the debriefing and leaves the session. If necessary, the support member will have clinical support of one of the assistant team leaders.

Another person selected before the session begins is a "primer." The "primer" is assigned the responsibility to recount his/her experiences similar to the manager. However, the "primer" volunteers his/her recounting after the manager completes his narration and asks, "does anyone else want to talk?" and no one else volunteers. If other group members volunteer, the "primer" will wait until there is a lull in the debriefing process or after several other victims or survivors have shared their experiences.

After completion of the debriefing session, the Critical Incident Debriefing Team leader maintains close liaison with investigating detectives. The detectives are informed about the debriefing session, its impact on the witness program, and the expected natural recovery sequence for victims and survivors of violence and disasters. The detectives also become referral sources for victims or survivors who are not adapting well. The detectives are ideal referral sources due to their close contact with witnesses before criminal proceedings.

Finally, the Critical Incident Debriefing Team leader maintains close liaison with the Community Steering Committee, managers/supervisors of locations in which violence has occurred, and local mental health professionals. The liaison is necessary for informing all relevant personnel of the status of the situation and to insure continuity of services, when necessary.

The general responsibilities of the Critical Incident Debriefing Team to the victims and survivors are to 1) psychologically triage survivors and victims of the violence and/or trauma, 2) assist victims and/or survivors with managing acute emotional problems, 3) consultation with mental health and allied professionals to facilitate well coordinated services to victims and survivors, and 4) prevention of post traumatic stress disorder or other psychiatric symptoms that may result from failure to manage the crisis situation. The general purposes of the team to the victims and survivors are to demystify the emotional responses to the crisis and to give permission to have traumatic reactions to the crisis.

Another responsibility of the Critical Incident Debriefing Team is the maintenance of the team members' health. This is realized through a debriefing session with team members.

### Debriefing Sessions

Two debriefing sessions were conducted in this program. The first debriefing session was primarily for victims and/or survivors of the violent incident. In this instance, a victim or survivor was defined as any individual whose life was potentially in danger. The victims and survivors were advised that spouses or other significant others might be invited to attend the debriefing session, if desired by the victim or survivor.

The second debriefing session was conducted for victims and/or survivors and their family members. It was recommended that children under age twelve not attend because of the emotional intensity and verbal abstraction levels often encountered in the sessions. Also, younger children may divert parents from the debriefing process to parental protection activities. In instances in which the victim and/or survivor was at high psychiatric risk, the victim/survivor was advised that his/her attendance at the second debriefing session could be excused if the victim/survivor so desired. If the decision to not attend was made, the individual could return near the end of the session to be with family members.

The purposes of the first debriefing session were to 1) prevent exacerbation and "sealing over" of the normal cognitive and emotional reactions of the violence victim/survivor, 2) demystify the individual's perception of the experience, 3) give permission to experience the cognitive

and emotional trauma and responses to being a victim/survivor and 4) develop an appreciation for normal human responses to violence exposure and survival.

Goals of the initial session were accomplished by having the victims/survivors recall in detail their cognitive and emotional responses from just prior to the violent incident, through the violent incident, to the initial, physical reunion with family members (esp, the spouse or parents) and, finally, the end of the day. As each member of the group completed this process, many of the goals were realized.

At the conclusion of the first debriefing session, the Critical Incident Debriefing Team Leader summarized the experiences of the group and attempted to normalize the situation with information about usual responses to disaster and violence. This was accomplished with research data and use of general observations derived from debriefing session episodes that fit the particular situation. Positive expectations of healing and resuming a normal life were emphasized. The debriefing group was also advised of other activities of the community to manage and understand the situation. The first debriefing session was concluded with an invitation to and explanation of the second debriefing session, which should follow the initial session within 24 to 28 hours, if possible.

The second debriefing session tends to be a less intense session than the first. Its duration is generally shorter and more psychoeducational than the initial debriefing session. The primary purposes of the second debriefing session were for family members to 1) manage their personal understanding and responses to the situation more effectively, 2) understand and work more effectively with victim/survivor family member, and 3) maximize family efforts to promote healing.

In the second session, another leader was chosen to direct the debriefing session. This helps avoid the original office manager being perceived by the group as an expert on managing reactions to violence and trauma. The newly appointed session leader conducts the session in a manner similar to the initial debriefing session.

The family members were given the opportunity to reexperience and understand the violent episode and their responses to it. This debriefing session began with the family member's activities just prior to hearing about the incident, proceeded through experiences leading to reunion with the victim/survivor, described initial encounter with the victim/survivor, and proceeded to conclusion of the day, bedtime). During the debriefing, family members were often observed using behaviors that protected other family members: victims protecting nonvictims and vice versa.

The Critical Incident Debriefing Team Leader again concluded the session as with the initial debriefing session. Psychoeducational topics were directed towards understanding violent events and usual behavioral, cognitive, and emotional responses to the violent events. The need to understand and accept different family members being in different adjustment phases to the incident were emphasized. Another area of emphasis was the family's strengths and expected healing with understanding and support from all family members. The need for family members to talk with one another in order to benefit from their family strengths was emphasized.

One topic frequently raised by the debriefing session members was how to manage the situation with children (themselves?). They were advised to make an analogy to how the children feel after watching a "scary movie." The children are reminded that they eventually recovered from that feeling and will also recover from these feelings. The parents were recommended to advise the children that such violent incidents would not occur in the family home. Another recommendation was to tell the children that they could not make the (victim) parent's fear go away and the parent only needed the child to be concerned and love them (providing behavioral examples of such behaviors). Again, family members and victims/survivors were advised to use one another, the family unit, and work associates as support systems.

### CONCLUSION

This program was used effectively to manage a community crisis associated with mass murder (violence). Basic assumptions underlying the program were that 1) the target population was normal rather than a psychiatric population, 2) intervention activities were a community rather than a mental health function, and 3) effective planning and organization help stabilize crisis situations and facilitate the healing process. Another basic assumption was that if pre-existing support groups were given the skills and knowledge necessary to reconstitute themselves after the fragmenting effects of violent episodes, the groups could contribute to their own healing process. One major role of the mental health personnel was to mobilize the strengths and bonding of the natural support systems in order to manage the crisis situation. In nearly all instances to whom this program was applied, the natural systems reconstituted well. The exceptions were the 5% that became "psychiatric fallout." However, as a result of the intervention efforts, the psychiatric cases were referred and managed in a more timely fashion. The program also significantly enhanced the image of mental health in the community at large, among community officials and leaders, and among other community agencies.

## IDENTIFICATION AND TREATMENT OF THE TRAUMATIZED CHILD

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Psychological trauma has attracted a resurgence of interest in the last 10 years owing in part to the difficulties that some Vietnam veterans have experienced in coming to terms with their combat experiences, the adjustment of victims of sexual and physical assault, and the aftereffects of natural and manmade disaster. The work of the Army's Stress Management Team has demonstrated that training to assist potential trauma victims is an immediate challenge to our readiness as mental health professionals and with the increasing inclusion of civilians in Low Intensity Conflict situations, our challenge extends beyond combat soldiers when preparing for wartime health care.

Today I would like to examine a subset of victims. Treating traumatized children requires an understanding of human response to trauma within developmental constraints that can alter the response witnessed by family and therapist. We will examine the features of trauma that reduce day-to-day competence, identify some specific features of childhood trauma, and briefly examine emerging treatment models.

The phenomenon of trauma should be familiar to most of us in the military owing to our training in the treatment of battle fatigue, a special case of trauma. Psychological trauma can occur in response to an extraordinary, personally catastrophic event (or events) that is outside the range of stressors that one expects to confront in his or her life-experiences. It is important to note that trauma, like stress, is a response, not a stimulus. Events are not inherently stressful or traumatic (Appley and Trumbull, 1967) despite their apparent or potential threat to the individual. Trauma may in fact be stimulated as much by the novel aspects of the threat as by the potential for harm and loss posed by the threat. Because the event lies outside the realm of commonplace life-stressors (e.g., illness, death of significant other, minor accident), the individual is often at a loss to understand or develop strategies for coping with experience. In contrast to more commonplace, albeit sometimes equally destructive events, the traumatized individual often reports confusion as well as fear or panic during the event. This subjective experience of being overwhelmed by the environment lies at the core of the phenomena of trauma (Ochberg, 1987). It suggests an experience that is not readily assimilated by the individual. He or she is then left in a psychological limbo that appears to be responsible for the cognitive preoccupation, emotional distress, and physiological arousal that traumatized individuals report as a recurrent and disruptive theme in their lives. Lifton describes the essence of the traumatizing experience when he notes that it violates our sense of security and results in "...a loss of the veil of denial that we will die" (Lifton, 1979).

The Diagnostic and Statistical Manual-Revised (DSMIII-R, 1987) criterion for Post Traumatic Stress Disorder provides a good description of adult trauma that can further familiarize us with the features of trauma that are observed in children, with some qualification. The first feature is an identified precipitating event as described above. Following identification of a

precipitating event, three other criteria for diagnosing PTSD concerns responses by the individual. These are first, a recurrent re-experiencing of the event, usually in one of four ways: recollections, often described as intrusive thoughts; recurrent dreams; a sudden reliving of the event that may include illusions, hallucinations, or dissociative states (e.g., flashbacks); and extreme psychological and/or physiological distress when remembering the traumatic event. Second, PTSD patients demonstrate a pervasive avoidance or numbing to include avoidance of thoughts and feelings about the event, avoidance of activities and situations that stimulate recollections, indifference towards significant activities (to sometimes include self-care), detachment, reported amnesia for the event, and restricted affect. It is diagnostically important to note that traumatized children don't cry as a rule. They generally engage in no form of spontaneous abreaction that one might expect to find as a signal of readjustment. A final general characteristic of PTSD is increased arousal. Frequently reported complaints include sleep difficulties, irritability, poor concentration, hypervigilance, startle responses, and a general increase in autonomic measures of reactivity to change (Horowitz, 1976).

### CHILDREN'S RESPONSES TO TRAUMA

While children demonstrate behaviors that fit the criterion commonly associated with trauma, Lenore Terr has summarized four findings that offer a more unique picture of traumatized children. She gained a unique if unfortunate opportunity to observe children's responses to psychological trauma when she interviewed the 23 children who were kidnaped at gun point and buried in an underground truck trailer for 16 hours in Chowchilla, California (Terr, 1979). The four commonly observed behaviors in these children were visualized memories, reenactment, fears, and futurelessness.

Visualized memories are similar to the intrusive thoughts reported by adults. However, generally children report the memories as dreams that are often specific and literal with regard to certain symbols associated with the trauma. I emphasize symbols because the dreams are often elaborated and distorted over time. Terr has stated that dreams that do not change, are simplified or concrete, may be the result of coaching (Terr, 1988). Often the sequence of the dream may be mixed up. Children may insist that the dream preceded the event. Perhaps this kind of prescience is a cognitive strategy for gaining control but it can also suggest to the child that he or she could have avoided the event or warned others to avoid the event (Pynoos & Eth, 1986) contributing to a sense of personal responsibility.

Daydreams were also reported by children in Terr's interviews. The daydreams are less intrusive in young children than in adult PTSD patients, usually occurring during periods of inactivity. However, children witnessing violent acts (e.g., shooting death of a parent) are reported to experience intrusive recollections of the event as well as nightmares (Malquist, 1986). As with Terr's sample, children exposed to a natural disaster appear to have few chronic complaints of intrusiveness (Blom, 1986). This phenomenon may then be related to the degree of overt aggression witnessed or experienced personally and should be further investigated.

While intrusive, disruptive thoughts may be less frequently observed in children than in adults, children often engage in reenactments of the traumatic event. Therapists as well as parents have reported a grim, seemingly compulsive

repetition of events in play (Terr, 1981). Terr reports that one child from Chowchilla insisted on playing a "kidnap game" every day at recess for the entire school year. In our own clinic we frequently observe a "Mother" doll punishing a "bad" Child doll in the play of abused children.

A third common finding in traumatized children is the presence of fears. The fears are specific and may be considered pathoneumonic by their literalness. Traumatized children can also have a number of generalized fears, but it is the specificity of the stimulus and intensity of the response that is diagnostic. For example, a 4-year-old boy was referred by his adoptive father after a recent trend of recurrent nightmares following a visit from his biological mother, recently institutionalized with what was described by the father as a psychotic episode. This child's previous involvement with his mother included neglect and abuse with one episode in which the mother attempted to smother the child with a pillow at age 2. The child's response to the reunion with his mother was to crawl onto the top of a chest of drawers and defecate.

Finally, Terr has described a sense of futurelessness. In adults, this is observed in narratives that don't contain references to long-term goals such as family, grandchildren, or retirement. Children express few references to growing up and it is noteworthy to listen to assault victims who talk about the belief that they are never safe.

There are some other comments that should be made before we move to treatment issues. First, children distort time, circumstances, and subjects as they recall the event. The 4-year-old that I just described had a nurturing telephone call by his mother denying any abuse, saying that Daddy lied about her. Confused by this "good" mothering experience and his "bad" mother recollection, he resolved the issue during our next session by saying that "Daddy tried to kill me!" I believe that these distortions are an attempt to assimilate the experience, and should not be corrected until the behavioral and physiological aftereffects begin to diminish.

Second, children may never reenact the trauma in a therapy session. The reenactments often become ritualized, context dependent, played the same way, in the same place each time. Instead, the therapist may observe the child's experience in artwork and stories, or may receive reports of reenactments by parents, teachers, or the child.

Third, there are differences between the child's response to a single, unexpected trauma and to recurring trauma that becomes integrated into the child's life. For one-time occurrences such as rape, witnessing a murder, or kidnaping, children have clear memories of the event that may include the misperceptions noted earlier. This type of trauma is the primary focus of this presentation.

Long-standing or recurrent trauma results in a different presentation. Victims of chronic traumatization often adapt by a blunting of affect, denial, or indifference to pain, and either general withdrawal or a false bravado. This is similar to the numbing and avoidance described in adult PTSD patients. Underlying this difference is often an ongoing sense of rage that is most apparent when the child has no choice but to submit to the assault (e.g., incest). The rage is frequently self-directed and, combined with the outward presentation of indifference, makes intervention difficult. Treatment requires considerable attention to nurturance and trust.

Finally, children may be traumatized vicariously. For example, a 6-year-old child was referred for decreased school performance, withdrawal, and nightmares after her mother was raped by two men who broke into their apartment. By the mother's account, it seems unlikely that the child observed the assault. The mother says that she screamed twice. Her assailants told her that if she awakened her daughter they would hurt her. Other information suggested that the child did awaken and heard the threat. Could their reference to the child during a violent act that she overheard be sufficient in her mind to include her in the assault? I also believe that children, especially pre-operational children whose boundaries between reality and fantasy are shaky in the first place, can be incidentally traumatized by "slasher" movies. The most destructive of these movies are those in which the monster comes to life out of dreams. Given the child's cognitive egocentricity, these monsters that can become real by thinking about them circumvent emerging ego boundaries. The child's insistence on seeing these films again and again may be an example of reenactment.

Why do children respond as they do when traumatized? One explanation that fits the behavior observed suggests that the child is attempting to make cognitive sense of the experience. In Piagetian terms, the dreams, distortions, reenactments observed in children are an attempt to assimilate this extraordinary event into existing schemes, or cognitive plans (Fish-Murray and van de Kolk, 1987). The process of accommodation (i.e., the modification of current notions of how the world works) requires some initial attempt to integrate the experience into existing plans of understanding. When this strategy fails, and affective as well as cognitive discomfort becomes overwhelming (disequilibrium), the child activates earlier coping styles and may insist on reenactment as both a desire for the security of sameness, and as part of the process of cognitive reorganization.

### STRATEGIES FOR TREATMENT

Surprisingly, direct treatment of children for traumatic experiences is a relatively recent phenomenon as reported in the literature. While several articles have described the effects of natural disaster (e.g., Newman, 1926; Lacey, 1972), most attention on treatment has been restricted to adults. Recently, however, reports addressing intervention have been published. Interventions appear to be of two types. The first involves a community intervention utilizing the natural disaster strategy that relies on providing information to family, school, and community on expectable responses to the event, and group sessions to discuss reactions to the event (Blom, 1987; Parad, Resnich & Parad, 1976). Primary mechanisms underlying this strategy involve mobilizing mutual support, catharsis, and reassurance of response normalcy.

A second intervention strategy utilizes individual interviews. The process combines traditional play therapy formats with debriefing goals that we are familiar with from the battle fatigue literature. Two recent examples are those of Galante and Foa (1986) who studied and treated children who were victims of an earthquake in central Italy, and Pynoos and Eih (1986) who have treated children who witnessed extreme violence (usually murder).



Pynoos and Eth have developed an approach to interviewing children that provides a brief, easily understood method of addressing the traumatic experience. It is important to note that this approach is presented as a consultative technique to identify the immediate effects of the trauma, provide relief for acute distress, and suggest appropriate follow-up roles in reducing sequelae for family and community support systems.

Briefly, Pynoos and Eth's protocol can be divided into three stages. The opening, which defines the purpose for the interview, encourages rapport through stories and drawings, and waits for the intrusive traumatic themes to emerge during the free play. With the emergence of traumatic ideation, the second stage begins with an explicit reconstruction of the event to include the child's perceptual experience ("The gun must have been very loud!"), attribution of blame, retaliation fantasies, and future concerns. Emphasized here is the need to be straightforward in exploring the objective and subjective aspects of the event while providing a secure, nurturant setting for this reconstruction. Moreover, the interviewer aids the child in cognitive reappraisal of the experience as appropriate. For example, children who feel that they should have done more to protect their parents are led towards an acknowledgment that they did the best they could in the situation. Catharsis is facilitated with the goal of providing support to the child and reducing the fear that emotions will be overwhelming.

The final stage concerns closure of the session with special emphasis on acknowledging the child's fears and perceptions of the event, predicting the expected course of their adjustment and voicing admiration for the child's courage.

While this appears to be a good model for intervening with traumatized children, several cautions are in order. First, it is primarily intended for children witnessing extreme aggression, and its utility for children who have been directly harmed has not been reported. Second, it has been limited to instances of a single, or short-lived, traumatic experience rather than repeated trauma (e.g., physical or sexual abuse, war). Third, there have been no outcome studies to examine the usefulness of this intervention as a treatment in and of itself or as a facilitator to further treatment.

The principles currently embraced for treating battle fatigue have many similarities with Pynoos and Eth's strategy. Immediacy, simplicity using reconstruction and reassurance with minimal interpretation or modification, and an expectation of some aftereffects such as grief within the context of normal recovery are familiar to military mental health professionals. Additional considerations in applying these principles to children include age and level of emotional maturity, exposure to previous trauma, social supports, and familial context to which the child will return.

In closing, I'd like to suggest that "trauma" can be a useful term for conceptualizing the child's response to a variety of extraordinary or personally catastrophic events. However, there is the danger that it will become a new "buzzword" that through reckless application becomes vague and useless as a clinical descriptor. Therefore, it is important that we understand the phenomenon of trauma in terms of the event but most importantly the disruptive effect on the child's functioning so that we accurately identify its occurrence and make a timely intervention.

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## THE TREATMENT OF ADULTS WHO WERE SEXUALLY ABUSED AS CHILDREN

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Recent attention in the popular press and in professional journals concerning the frequency and potentially serious impact of childhood sexual abuse on adults has raised important questions regarding the assessment and treatment of both abused children and adults who were abused as children who are still suffering. As estimates of the percentage of adult women who have been sexually molested or abused as children run as high as 30 to 40% the sheer weight of these numbers suggests a need for all mental health professionals to have expertise in the identification, assessment and treatment of victims. This paper presents an integration of Piagetian developmental concepts, analytic ego therapy with regression, behavioral, and cognitive empowerment concepts considered necessary for the conceptualization and treatment of the adult who was sexually abused during childhood.

Incest, for the purpose of this paper, means mutual stroking, fondling and masturbating, disrobing, inspection and handling of the genitals, and sexual intercourse between parent and child, brother and sister, half-brother and half-sister, and grandparent and child (adapted from Greenspan, 1980; Jaffe et al., 1975). In recent years, the frequency of reports of incest appears to have increased dramatically. This increase appears to be a function of many factors, to include

1. Greater vocal expression of sex.
2. Legislation, treatment, and law enforcement programs sympathetic to victims.
3. Increased general awareness of child abuse, in part, as a function of Year of the Child.

### Frequency

Prior to the 1960s incest was probably heavily underreported. It was viewed as a negligible phenomenon. In 1962, Cromier et al. suggested a more realistic view.

Generally, father-daughter incest seems to be the most commonly reported. However, Weinberg (1955) suggests among others, that brother-sister incest may be more common. According to Kinsey (1953) about 25% of white middle-class females reported an unwanted pre-adolescent sexual experience with an adult male. In 75-80% of cases the child knew the offender, and estimates suggest 24-40% of offenders are family members. Many offenders were themselves victims of sexual child abuse. In fact, Westerlund (1983) states 50-75% of male offenders have a history of abuse as boys! Jeffers (1987) states that 80% of military personnel then incarcerated for sexual indiscretions with children had been molested themselves as children. This is remarkable in part because historically only 5-10% of reported victims have been male. Overall, the

female/male child ratio for familial abuse rests at about a 9/1 ratio. And only about 3% of incest offenders are female.

### Consequences

Banmen (1982) has summarized the following outcomes associated with incest:

1. prostitution
2. female sexual dysfunction (Meiselman, 1978 suggests 80% of victims and only 20% of unmolested controls have this problem)
3. male homosexuality
4. drug abuse
5. child abuse
6. rape
7. incestuous behavior by formerly victimized fathers

For father/daughter incest, the most frequently reported behavioral consequences are

1. promiscuity,
2. sexual dysfunction,
3. neurotic behaviors of a wide variety,
4. no ill effects.

Psychological consequences seem to center around responses similar to rape-trauma syndrome compounded by an exacerbation of problems with trust, betrayal and self-esteem.

Generally, in father/daughter incest, the child is not reported as the aggressor. In effect, the child-victim is usually an innocent party. And, even if the child were the aggressor, an adult--responsible for the child's welfare--should be able to say "no." An interesting observation from Courtois (1980) suggests that approximately 50% of father/daughter incest victims attempt to resist and that perhaps 50% didn't know they could.

Psychological consequences of father/daughter incest often include mistrust of men. This result of the betrayal of trust can be devastating in many respects. This is especially because of the sense of loss and rage that victims often experience concomitant with the fact that the offender is often also a "protector" of the child who is dependent upon the offender in multiple ways. Thus, the offender is appreciated for his support, control over rewards and protection and yet cannot be openly opposed or aggressed upon by the victim. Worse yet, the vast majority of mothers, even when confronted with strong evidence, seem to with the father, almost without exception. Thus, the female victim can be doubly devastated: by the mother's failure to protect her and her refusal to believe the child when told of transgressions. In fact, with very young victims, there is often the assumption that mother knows everything (even if she does not), resulting in a sense that the victim has been palpably and surely sacrificed.

The net result of father/daughter incest is often a "decision" on the part of the daughter that she is somehow defective; she would be better protected, or at least listened to when she protests. Indeed, many children come to believe that this is a result of their own personal evil. Thus, often problems

arise as a result of guilt, shame, and self-hatred for being personally defective if not evil as well.

The bottom line is that victims of father/daughter incest often feel isolated from both male and female authority figures, tend to see themselves as defective, ugly and/or "dirty," and have considerable difficulty distinguishing boundaries. Thus, they are particularly vulnerable to feelings of detachment (a survival technique--possibly leading to borderline, multiple semi-independent ego states which never seem to quite integrate, or outright multiple-personality).

Unfortunately, much of the writing done about victims has tended to cast them as provocative, seductive, unusually attractive and/or promiscuous. Other questionable themes are that the mother "always" knows (when in fact the daughter has usually taken every step to conceal the incest) and that the mother is a willing indirect participant via her stepping aside of her marital responsibilities, thus giving the daughter a helpful psychological shove into the role of surrogate "wife."

### Developmental Perspective

In order to understand the child's experience of being victimized, one needs some perspective on the nature of childhood thought and its differences from the thought of adults. To start with, crudely put, while children have frontal lobes--they don't work very well, at least up until 12 years of age as far as their capacity for abstract thought goes. As a result, it is futile to attempt to apply adult concepts of abstract thought to children. Essentially, children think differently about many concepts to include "right and wrong" and morality.

To elaborate, let's briefly review the model of moral development as related by Kohlberg (1964). Kohlberg used hypothetical moral dilemmas to study the judgments and reasoning of children. He was able to define six sequential stages of moral development. These are summarized in Figure 1.

In theory, there are three levels of development to be considered, namely, preconventional, conventional, and principled. At the preconventional level the "good" and "bad" labels are affixed based on rewards and punishment, the exchange of favors, or the power of whoever makes the rules (usually parents or parent-surrogates). The preconventional level corresponds to stage 1 and 2 in Figure 1. At the conventional level of development, "right" and "wrong" are defined by one's group, whereby conformity to norms is expected and actions are taken to preserve and maintain social order, regardless of the consequences. This conforms to stages 3 and 4 of Figure 1. Essentially at this level good behavior is that which is approved by others because it pleases and helps them. And "right" behavior is "following the rules, obeying authority, and maintaining the social order for its own sake." This is probably the highest level of development during which the majority of victims of childhood incest are victimized. It has been my clinical experience that all too often the patient who has sought therapy is fixated at this level of development in terms of how he deals with the important interpersonal relationships in his life. The basic notion here is that the child-victim of incest is most likely arrested in moral/emotional development at best at stage 4 (Figure 1). This means that notions such as following the rules, obeying authority and

maintaining social order for its own sake take precedence over individual rights and formal ethical principles (stages 5 and 6 at the principled level of moral development). Thus, the child (or adult patient if arrested at stage 4), who already feels she is defective, who feels anger and guilt over her violation, cannot move forward in a moral/developmental sense without resolution of the nature of her original incestuous relations. That is, the rule then was to obey authority and to accept responsibility for the incidents. And so it continues. Indeed, how often is the theme "boy will you be in trouble if anybody finds out" repeated in the warnings perpetrators issue to victims of incest?

The notion of the individual's right to refuse, to be personally responsible and empowered to refuse, to decide otherwise has yet to be exercised; or if it has been attempted (as with adult rape victims) the victim feels a complete loss of control and subjugation. Again, the victim was at best obeying authority and maintaining social order in the process. In fact, for most rape victims and victims of incest as well, the patient is "defeated," often guilty, and at some level may be expected to be feeling responsible, dirty, unworthy, and unable to present her fears and troubles to others for fear that they will somehow discover how truly worthless the patient (feels she) is.

It is as a result of the feelings of worthlessness and shame that most adult victims of incest have avoided disclosure of their experiences. In effect, the incest often has the effect of causing the patient to feel so diminished that she behaves as though no one could possibly regard her as worthy if the family secret were to become known. In addition, it appears the near timeless "interns' rule" that if you don't want to know something, don't ask applies to clinicians. In effect, in many cases in my own experience as a clinician and as a supervisor of interns and residents as well, the identification of incest as a primary antecedent of psychopathology and or problems of living comes rather late in the clinical relationship. All too frequently it is identified as much by what patient's don't say as by what they do. For example, in one case I treated over 15 years ago, it was only in the eighth or ninth session that it occurred to me that a patient who had spent considerable time talking about her mother, daughter, and husband had never even mentioned her father. This observation led eventually to recall of an incestuous incident with the father that had apparently remained repressed for over 44 years and had colored her relationships with males ever since, apparently. I guess the message here is to ask as soon as sufficient trust is established and to be thinking about the possibility for virtually every patient (especially with estimates of frequency running at 30 to 40% in the female population).

## INTERVENTIONS

### A Brief Review

Banmen (1982) and others have reviewed the major methods of intervention on behalf of victims of incest. For example, Molnar & Cameron (1975) have suggested the removal of the daughter/victim from the home, therapy for the daughter, some family intervention and reintroduction of the victim into the home as a desired sequence of events for intervention. Rangione (1972) has suggested bibliotherapy as a form of intervention. Lasser (1962) has noted

that victims tend to retain positive feeling for many perpetrators and notes that punishment of the father alone yields a burden of guilt by the victim which needs to be dealt with. Indeed, it almost always appears that the victims of incest carry with them a great deal of ambivalence, usually including anger, resentment and appreciation of better qualities of the perpetrator. Meiselman (1978) agrees, and emphasizes the need for increased extra-familial relationships; initial treatment of family members into homogeneous groups led by a same sexed therapist in order to develop role differences and gender loyalty bonds as well. All seem to agree that strict limits must be set (no more incest tolerated). Individual integrity and honesty are emphasized.

Westerlund (1984) notes, as does this author, that incest is not usually the presenting problem for victims. He suggests the use of self-help groups and tends to use "graduates" of these to get things moving clinically. He also suggests individual treatment can be helpful. Rychtarik, Silverman, Landingham, and Prue (1978) have suggested implosive therapy or flooding can be helpful. Of course, both techniques involve repeated exposure through imagery to the incest scene and related events. Holmes and St. Lawrence (1983) have suggested that specific coping mechanisms be learned by victims and that they concentrate on alternative responses to anxiety.

Gordy (1983) places heavy emphasis upon group-work and suggests a structured schedule of topics to be covered. These include (sessions 1 and 2) sharing of each individual's story with the group and a discussion of impacts and signs. Sessions 3-7 would involve discussion of various topics such as guilt, depression, mistrust of men, feelings of isolation, sexual dysfunctioning, bitterness toward mother or father and various other subjects. Sessions 8-12 would cover the issues of blame, shame, and guilt. And perhaps from session 12 on subjects such as flashbacks to abuse, denial (still often in existence at even this stage; doubts as to duration of abuse in time, frequency and specific activities are still common even after 12 sessions), and other content would be dealt with. Specific outcomes suggested include (a) overcoming social isolation, (b) increased self-esteem and self-respect, (c) decreased guilt and shame, (d) increased insight on alternatives to control of one's life (Gordy, 1983).

While much interest in the treatment of adult victims of incest who are still suffering has been shown in recent years, it appears that much research is still required in order to determine the best methods for identification of those in need of help and the techniques which are optimal for treatment. Some cautions seem in order at this time. For example, while a large number of techniques exist for the alleviation of anxiety and irrational fears, probably the hardest to solve problem in the case of many victims is deciding what the target(s) of extinction should be. Also, it should be noted that certain techniques such as implosion and flooding are highly anxiety producing and that these may in fact increase drop-out rates from therapy. Finally, it should be clear that the use of just one major technique is probably ill advised as victims seem to have many facets of their lives which are affected by their past abuse, and a multimodal approach to therapy is almost always indicated as a result.

## An Integrated Theory of Intervention

Quite generally in psychology I have found the model presented below to be useful in putting behaviors and their antecedents in perspective. In essence, the model briefly stated is

$$\text{BEHAVIOR} = f \text{ (a) (b) (c) (d) . . . (n)}$$

This means that any particular symptom or behavior considered for change in the therapeutic contract between patient and therapist is presumed to have knowable antecedents or causes. Indeed, from this perspective a behavior or symptom is explained or understood when its antecedents are known. The behaviors in question are usually classified in terms of (1) what a patient does, on a molar level; (2) what a patient says and thinks, whether stated or not, and (3) what a patient feels, which roughly equates to physiological changes the patient may or may not have a conscious awareness of. The left-hand side of the formula corresponds in formal logic variously to consequents, dependent variables, or effects. The right-hand side of the equation corresponds variously to antecedents, independent variables, or "causes." Essentially, the right-hand side of the equation corresponds to the traditional stimulus (to include social learning), organismic, and response variables which every student taking a course equivalent to "an introduction to psychology" must grapple with. In this instance it is important to note that thoughts and feelings may well represent stimulus variables which serve as antecedents to other behaviors as well as "consequents" or dependent variables as well. The theory that human beings respond to their own thoughts and feelings with actions is surely not an unfamiliar notion to most of us heavily engaged in clinical activities with the possible exception of those "dinosaur behaviorists" who prefer a purely "black box" psychology such as might be preferred by the followers of B. F. Skinner and others.

Figure 2 represents a model I'd like to propose for the explanation of the behaviors seemingly most often associated with the problems of living (symptoms, behaviors) found in adults who were sexually abused as children. These problems include prostitution, sexual dysfunction, male homosexuality, drug abuse, child abuse, rape, incestuous behavior, promiscuity, neurotic behaviors, "splitting," multiple personality. The last item in the chart recognizes parenthetically that occasionally no ill effects are reported. On the right-hand side of the formula in Figure 2 I've listed some of the major antecedents thought to contribute uniquely to the behaviors in question. These include abuse, developmental stage, moral developmental level, the conclusion reached by the patient that they are somehow "defective," an affective component which may include shame and guilt, and finally anxiety. The quite general label "intrapsychic conflict" is presented to summarize the thoughts, feelings, and hypothetical explanatory constructs usually referred to in the literature as the internal "dynamics" of the patient. What I would like to propose is that this model offers us both a structure for understanding the experience of the patient, and some powerful direction as to the steps one should consider in treatment of these victims.



## TREATMENT

The treatment of adults who were sexually abused as children (ASAC) and who are still suffering is a generally complicated process. This is in part because of the nature of the defenses that are most often used. Because on its darkest side incest is usually a haunting and frightening experience for the patient, the defenses needed to control the attendant rage, guilt and shame must be powerful and well entrenched. Most often, these defenses consist of denial at the very least. More often the clinician can expect repression, denial and suppression to be present; in the most difficult of cases repression proper is the rule of thumb. This means that ASAC patients tend to protect this family secret exquisitely well. As a result, the clinician's first hints of this core problem may come in relatively indirect ways. As noted above, this means that the identification of the problem depends very often more on what the patient does not say as compared to what they do tell their therapist. Early on in my therapeutic career I used to note the haunting thought (coming out of my "therapeutic guts") that at first only had the faintest energy behind it--the thought that something wasn't happening in the treatment process that should be. Then, frequently after the sixth or seventh session, it would strike me that a particular patient had spent most if not all of his time talking about just one parent. This awareness reliably led to the sort of questions that would eventually unfold at least the affective component of the defenses surrounding the secret of the incestual experience. If the defenses are not too powerful, the revelation of the experience (usually minimized as the extent, frequency and duration) follows on relatively rapidly. If the resistance remains powerful, it may be many months before the patient becomes confident enough to face the pain and suffering again in conventional talking therapy. It has often proved helpful to utilize light trance states to assist the patient in uncovering. However, if this technique is utilized, it must be done so in a most delicate fashion.

Considerations for the potential use of hypnotic trance to assist patients in recovering repressed material have been outlined carefully by a number of authors to include (Hilgard, 1976, 1977; Crasilneck & Hall, 1975; Erickson, Rossi, & Rossi, 1976; Erickson, 1986; Kelly & Kelly, 1985; Kohn, 1984; Kroger & Fezler, 1976; and Kroger, 1977) and require no great elaboration here. However, for certain, the clinician should be aware of the need to explore well defended material in as permissive a fashion as possible. The experienced clinician will also readily appreciate the special problems of transference that can be experienced with patients in trance (and normal conscious states as well) where too aggressive a therapeutic approach may well be experienced by the patient as abusive and in effect a repetition of the original abuse, at least symbolically, by the patient. Thus it can be terribly important to proceed carefully when seeking to speed up the therapeutic process with incest victims. Clinicians should probably always ensure that their posthypnotic suggestions include a proviso that the patient need not recall all of the material remembered in trance (content and affect) and that while it may be explored later, the patient will recall what he wishes to, when and as it is appropriate; and when and as they choose to explore it. In effect, while patients usually cannot be simply stripped of their defenses by posthypnotic suggestions that they "will remember and talk about 'it'," it is helpful to not directly challenge them by expecting them to move too quickly where powerful long-repressed material is being uncovered.

Once the material surrounding the theme of incest is uncovered, it is possible to approach it in a number of highly effective ways. For the purpose of organizing this paper, I would like to particularly address the elements of anxiety, the "decision" made at an early developmental stage that the patient herself must be "defective" (worthy of shame, guilt, and perhaps somehow responsible for the incest), empowerment, guilt per se, and integration.

### Anxiety

As treatment progresses, most patients are able to describe the actual circumstances (such as place, setting, and person/persons present) and the acts of abuse previously experienced as well. This is always, it seems, concomitant with the experience of considerable anxiety. The literature is very clear about what works for the reduction of phobic anxiety (if anything is going to work at all). Essentially, time and time and time again, exposure to the threatening scene or memory when nothing noxious truly happens works (e.g., Paul, 1966; Shoberg, 1969, 1971; Stampfl, 1967; Franks & Wilson, 1973; Lazarus, 1972 and others) in the reduction of anxiety. In therapy with ASAC patients, I have found it most helpful to utilize a combination of light trance and systematic desensitization procedures both in the office to start with and later along with home practice as well. What seems to work goes about as follows. The patient is first asked to describe the circumstance(s) of abuse and these are then placed into a traditional systematic desensitization type hierarchy from least anxiety provoking to most. Then the patient is encouraged to re-experience the scenes. However, there is one twist that I have found to be critical to full and most rapid remission of symptoms. This variation is probably critical because of the nature of the patient's developmental arrest, at least with respect to sexual issues as they are represented.

In the instance of ASAC patients, it has been my clinical experience that they have often failed to achieve relief of symptoms even after many months of general psychotherapy previous to discovery of the core conflicts surrounding their incestuous experiences. This in part presents them with a rather classical neurotic dilemma. That is, they as adults know that their symptoms (at some level) are self-defeating, psychologically painful, and yet are repeated time and time again in a most inexplicable way (in their experience). For instance, even after the revelation that they were sexually abused by their fathers, and with the knowledge that their husbands are not their fathers, ASAC dyspareunia patients have not been able to attain relief from their symptoms. In effect, they are still scared, disappointed, and in pain; they do not want it to be so. Given this situation, where have I found the key to their treatment? In my experience, the situation seems to be that while patients can consciously understand the nature of the predicament and can even intellectually elaborate the appropriate connections, they have yet to complete the emotional uncoupling of the symptom and its origin. In working through these connections, I have found it most helpful to take a Piagetian perspective on the nature of the thought processes involved and combine it with the more Freudian notion of developmental arrest.

In effect ASAC patients seem to have formulated their experience of their incestuous experience using logic and schematic structure (in a Piagetian sense) at the developmental and moral level they had attained (or lower) at the time of the experience. Since the incest began, they appear to have maintained the initial schemata essentially intact. Thus, ASAC patients appear to be developmentally and essentially behaviorally arrested in at least the sphere of

their psychological development affected by their incestuous experience. As a result, their symptomatic behavior and thought processes seem to remain fixed and rigid without effective therapeutic intervention.

Once ASAC patients have been able to formulate their personal hierarchies of fears to be desensitized the next step in therapy that I have found to be most useful is to do several scenes in the conventional systematic desensitization mode as suggested by Gordon Paul (1966) and others (e.g., Shoberg, 1971; Lazarus, 1972; Franks & Wilson, 1973). It is helpful that the therapist make every effort to start with scenes that the patient can successfully complete (i.e., without experiencing anxiety or discomfort), as the purpose here is as much training in the use of the technique as it is in the actual reduction of anxiety. After successful completion of several scenes, generally it may be best to instruct the patient to continue with desensitization procedures on a solo basis at home for 20 minutes or so on a couple of evenings.

Following the above training and procedures, the next step is to utilize a combination of a hypnotic trance and the desensitization procedure. This further prepares the patient for what may be the most critical procedures in this clinician's formulation of this treatment plan for ASAC patients. This next stage of treatment is best characterized as a combination of systematic desensitization under hypnotic trance with age regression. The notion here is to return the patient as closely as possible to the seminal scenes where the abuse took place and for the patient to re-experience the pain, suffering, confusion, and the feelings of shame, guilt, and rage. The rage, where present, has, in part, an origin in the patient's knowing she was or should have been under the protection of the offender, that the trust implied was violated, and that since she had to continue under the offender's protection, that she somehow deserved the violation because of her defects. As in conventional systematic desensitization, the patient must re-experience each scene repeatedly. As expected, anxiety is eventually reduced through this procedure. However, there seem to be several critical additional steps which must be considered and executed prior to termination.

#### From Defective and Helpless to Empowered

Through the course of treatment up to this point, ASAC patients tend to continue to present psychological schemata which indicate they see themselves as unworthy, defective, and helpless in the face of the assault of a formerly protective and loving parent. While they were entitled to the protection of the offending parent, this was not afforded them. And indeed, many children have assumed that perhaps magically their mothers have known all along exactly what has been happening, and that they in fact have condoned it. Therefore, the child has come to believe she is defective and unworthy. This decisive conclusion has generally continued into the ASAC patient's adult life at some level psychologically even if it is not verbalized. When therapy uncovers this schemata and its attendant feelings, the treatment can begin to offer hope by changing this schema.

The technique I have found to be most helpful is similar to that utilized in a previous series of papers on the treatment of nightmares in latency aged youngsters (Shoberg, 1974, 1977, 1978, 1980). In the original series of papers, children's fears were dealt with by construction of clay figures and

the acts of playing out the dreams from the standpoint of each character and object presented in the child's dream to begin with. Eventually, it was possible for children to "make friends with" the monsters from their dreams and to modify the story line of their original dreams to include this eventuality and to also enable them to have control and protections included in the form of "force fields" they or their allies could introduce in the themes at their will. Children can rapidly reduce the anxieties presented in dreams by systematically playing through their dreams and modifying the stories in such a fashion as to empower them in situations which were initially experienced as out of control. The modification of this set of techniques for the ASAC patient is to have her initially experience herself as empowered to change the theme of the previous incestuous experience. Essentially, the patient is asked now to construct a theme that would have prevented the abuse in the first place.

For example, one patient rehearsed the theme "No, Father, I cannot permit you or allow you to touch me in that way." The patient rehearsed the scene in such a fashion as to communicate both verbally and non-verbally, disapproval, non-compliance, and an outcome which implied control and mastery. This initial reframing of the seminal incest scenes takes place with the patient regressed to the original age of the abuse wherever possible. It is believed that age-regression is essential to therapy at this point in order to enable the patient to assimilate the advanced developmental material in psychologically accommodating to the offending adult's advances. As the majority of patients have failed to do so when they are in their ordinary state of consciousness, it is assumed that age-regression facilitates if not enables the patient to adopt the new frame of reference of a more mature developmental stage, and to make a re-decision about previously felt defects.

#### Dealing with Guilt and Shame in the ASAC Patient

From a clinical point of view, the experience of guilt by a patient appears to involve at least two feelings: namely, resentment and appreciation (Perls, 1968). When these feelings are experienced by a patient toward one person around a powerful theme such as that presented by the concept of incest the patient tends to present with ambivalence, confusion, and a frequent switching from one concept to the other without resolving either primary feeling. So the patient goes on stating she is resentful, yet in the next breath says she is appreciative and has loving feelings toward the offender at the same time. Unfortunately, neither feeling is ever fully expressed, and the patient often appears stuck with uncanny reliability from patient to patient. This presents a picture which must be like what Karl Jung had in mind when he described the concept of the guilt complex. Its treatment has been elegantly described by Perls in his classic Gestalt Therapy Verbatim (1968). Essentially, treatment here consists of recognition of the existence of the feeling elements making up the complex (guilt: resentment and appreciation, for example) and having the patient express these, eventually each in-turn, completely, without the contamination caused by the constant switching from one concept and feeling to the other. It seems that awareness of the process of switching and the complete expression and "owning" of each of these feelings toward the same person enables the patient to resolve the conflict and complex of feelings eventually.

## Integration

In many respects victims of incest have the psychological characteristics of patients more readily recognized as victims of posttraumatic stress such as rape and war. That they resent having lost control of their lives is a given. That those who go on suffering as adults have often experienced difficulties that have materially affected their emotional, behavioral, and spiritual health is clear. As with rape victims, a return of a sense of control and the empowerment to make decisions about one's own fate are essential elements of recovery. That the patients have been profoundly affected is often illustrated by the severe testing of the caring of the therapist that can take place in the therapeutic setting. This is perhaps best described as transference which revolves around themes such as "Do you love me? How much do you love me? Will you still care for me if I get angry at you, if I act out, if I say I hate you?" These themes must be carefully handled as is the case with all such transference phenomena and their sometimes attendant countertransference feelings on the part of the therapist. Ultimately, the therapist can be expected to be heavily tested along the theme of trust. And finally, the patient must come to grips with the problem of maintaining her own internal balance, in part now armed with the sense of control and empowerment to make her own choices, free of the haunting sense of being fundamentally defective, shameful, and unworthy.

## Case Studies

For the purposes of illustrating some of the points I've made above, I'd like to discuss two cases. The first is a more or less pure case of an adult who was sexually abused as a child. The second is a case where I'd like to attempt to demonstrate that the principles presented can be generalized to other sorts of problems as well.

The first case is that of a 31-year-old mother of three with a recent history of stellar academic performance. The patient was multilingual (fluent in at least three languages) and extremely bright, though she was also rigid and inflexible in some of her child rearing practices. She initially presented with her 7-year-old son with whom she was having considerable behavioral difficulty. Initial complaints centered around the fact that he was lying, stealing, enuretic, and often failed to complete his homework (or if he did, he often didn't turn it in at school). The patient, though ostensibly wishing consultation, had great and uncharacteristic difficulty following through with behavioral interventions (she was competent in many practical spheres of her life, but not with behavior therapy approaches). After several consultations with her alone and with her husband it became clear that the source of her difficulties was an unusually intransigent and stubborn set of resistances. As a result, individual therapy was suggested. In the course of treatment, it became clear over time, that she was quite generally troubled by interpersonal relationships, particularly with men (to include her husband, her therapist, and of course her son as well). As her history unfolded, she related initially a sad story of the deterioration of the mental status of her father, family financial difficulties and an eventual bankruptcy precipitated by the father's refusal or inability to work and the appropriation of money which might have saved the family assets for another purpose. Other pertinent information indicated that at age 12 the patient had been admitted to a special school designed to provide a university preparatory education. After a previous

nearly perfect record of academic accomplishment, the patient failed every course she took the next academic year. After concerted efforts to intervene on her behalf by her academically oriented father she was re-admitted and permitted to repeat the year and returned to her previous level of performance quickly. No reasonable explanation seemed to exist initially for her complete failure on her first try at this academic institution. She simply could not imagine an explanation to begin with.

As therapy continued, she made numerous attempts to improve her relationships with her son and husband. As time went on, it became clear that further exploration of past relationships was essential in order to understand her difficulties in the present. Soon after the exploration of her relationship with her father began in depth she began to recall having been sexually assaulted by her father at the age of 13. As many of the transference issues in therapy up to that time had dealt with trust, betrayal, and the patient's apparent need to ensure she had special treatment, the clinical issues now for the first time came into sharp focus. As this occurred, the patient began to focus heavily on her therapy. It was noted that she had recently transferred to one of the local universities from a junior college setting, and that she had selected a difficult academic load. As she was essentially a "straight A" student at the time and many of the courses contained considerable content she had mastered before, but for which she lacked transfer credit for various reasons it did not seem untoward that she had selected these courses initially. On the other hand, in view of the apparent preoccupation with her therapy, she was cautioned to monitor her progress carefully. Unfortunately, discretion did not reign in this instance, and the patient performed miserably, for the second time in her academic history, failing all but one course. Interestingly, while she was herself dealing with her own experience of incest as a teen-ager, she also was unsuccessful in one of her courses on a major examination which dealt, in part, with the same subject. (She petitioned her subsequent academic dismissal successfully in part based on this event, and immediately reverted to "straight A" academic performance--subsequently earning admission to graduate studies 15 to 18 months later). Intervention in this case followed the model suggested above, and eventually led to successful completion of her treatment, an improved relationship with her husband and son, and significant improvement in her general interpersonal relationships as well.

The second case is that of a 29-year-old woman with a history of dyspareunia for her 4 years of marriage. The patient's history in this instance included extensive urologic procedures as a child. Some of her memories of these included the humiliating experience of urination over herself and a doctor's office table while members of her family, her doctor, and his staff were present. The patient described a long history of medical evaluations since her marriage, a series of attempted interventions including general psychotherapy for several months. Essentially, the treatment program initially designed for ASAC patients was executed. In just four sessions the patient reported complete absence of pain during intercourse. A follow-up after 6 months revealed no further trouble or return of symptoms. Following a history of 4 years of frustration, humiliation, guilt, and shame, this was a remarkable change.

In proposing this model, I have a sense that I am (of course) basically reframing a problem and some of the solutions that other clinicians have been struggling with since the beginning of recorded time, at least. On the other hand, I'm also fairly certain that I've never encountered the exact theoretical and technical mixture (with possible apologies to Freud and Adler) presented. And in any case, I strongly feel that the problem of how to most successfully treat ASAC patient's is important enough that by offering this treatise, there may be some increase in interest which will lead to more productive theory, research and practice in the future.

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FIGURE 1

KOHLBERG'S SIX SEQUENTIAL STAGES OF MORAL DEVELOPMENT

<u>Stage</u>	<u>Description</u>
1	Actions based on avoidance of punishment and deference to power in its own right.
2	Right actions are those which meet one's own needs. Reciprocity is a matter of "you scratch my back, I'll scratch yours"; not of fairness or equality.
3	Good behavior is what pleases and helps others. Behavior judged by intention, not just consequences.
4	Law and order orientation in which right behavior is following the rules, obeying authority and maintaining the social order for its own sake.
5	Right actions defined by individual rights apart from the relativism of personal values. Emphasis on rules to reach a consensus opinion, with possibilities of changing laws in the interests of social utility. Free agreements and contracts are obligatory (on all parties).
6	Right decided by conscience in accord with abstract principles of justice, equality of human rights, dignity of the individual. Disobedience of law justified if it serves universal principles.

FIGURE 2  
MODEL OF THE ANTECEDENTS  
AND CONSEQUENCES OF SEXUAL ABUSE

x	=	(a)	(b)	(c)	(d)	(e)	(f)
<u>Behavior</u>		Abuse	Development Stage	Moral Development	"Defective" Conclusion	Affective Component Rage/Guilt	Anxiety
Prostitution				INTRAPSYCHIC CONFLICT			
Sexual Dysfunction							
Male Homosexuality							
Drug Abuse							
Child Abuse							
Rape							
Incestuous Behavior							
Promiscuity							
Neurotic Behaviors							
Splitting							
Multiple Personality							
No Ill Effects							

FIGURE 3  
TREATMENT ELEMENTS

1. Anxiety--Systematic Desensitization
  - a. regressed to the moment of abuse
  - b. repeat/repeat/repeat
2. Defective--redefine  
Redecision and no longer dependent
3. Empowerment--now empowered; change of outcome; rehearsal; repeat.
4. Guilt--anger/rage/shame/appreciation
5. Integration
  - a. twist--expect therapist to be heavily tested, especially on trust issues.
  - b. internal balance--control and empowerment.

## CHILDREN'S RESPONSES TO MARITAL CONFLICT

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This paper reviews the research examining the relationship between marital conflict and behavior problems in children. An historical perspective is established by reviewing retrospective and correlational studies in this area. The focus of the paper is upon recent research that investigates potential mechanisms by which children are adversely affected by conflict present in the marital dyad. Researchers have established that even young children have differential reactions to negative emotions displayed by their parents and that these differential responses may have some predictive value in establishing the type of child who may react negatively to conflict in the home. The potential value of these findings in clinical practice is discussed.

The relationship between marital satisfaction and child behavior problems has been examined from several perspectives. Initially retrospective and correlational studies established a relationship between these variables. The results generated were not surprising and served to reinforce clinical observation that child behavior problems are related to marital distress. However, the variance in child behavior problems attributable to marital satisfaction is not large. In addition, some children appear invulnerable to family stress. Thus, mechanisms by which children are adversely affected by conflict in the marital dyad, as well as "protective buffers" need to be delineated. It is in this research that an understanding may be established of the way in which marital conflict affects children's behavior.

### RETROSPECTIVE/CORRELATIONAL FINDINGS

A number of investigators (Christensen, Phillips, Glasgow, & Johnson, 1983; Emery & O'Leary, 1982; Johnson & Lobitz, 1974; Porter & O'Leary, 1981; Rutter, 1971, Wolkind & Rutter, 1973) have shown a significant relationship between measures of marital discord and childhood behavior problems. This relationship is strongest for boys with conduct problems and clinic samples of children, but it is weak or nonexistent for girls and nonclinic samples. It also appears that overt hostility rather than marital dissatisfaction is the critical variable associated with child problems (Porter & O'Leary, 1981). Given this, it is not surprising that the magnitude of the relationship tends to be greater when the marital dyad is characterized by physical violence (Wolfe, Jaffe, Wilson, & Zak, 1984).

The bulk of these earlier studies are correlational and thus do not provide information regarding the causal relationship between variables. It is impossible from these data to determine whether marital distress leads to behavior problems in children or the reverse. Another related issue involves the possibility that some third variable accounts for both the development of the marital distress and problem child behavior (e.g., parental personality variables). Additionally, most of the data are obtained via parental self-report, and thus are subject to biases of parental perceptions, as well as

other biases. Parents' perceptual styles could uniformly influence the way they evaluate the marital relationship and the child behavior thereby creating a spurious correlation (Christensen et al., 1983).

While inconclusive, the above findings do suggest that the quality of the marital relationship may affect child behavior. Interestingly, however, many children appear invulnerable to family stress (Garmezy, 1983). This finding has prompted researchers to adopt paradigms aimed at delineating mechanisms by which marital discord adversely affects children.

#### A MULTIFACETED APPROACH

Cummings and Cummings (1987) have outlined six fundamental issues relevant to understanding mechanisms of transfer between marital distress and child behavior problems.

1. Process-oriented approach. Children develop behavior patterns as a process over time. Their eventual characteristic behavior pattern is a function of how they respond to, evaluate, cope with, and influence their environment. An extremely detailed analysis of this complex activity is necessary in order to understand the way in which exposure to anger influences behavior.

2. Individual adaptation/maladaptation. The question is whether or not certain children are predisposed to cope with angry environments in healthy versus maladaptive ways. Furthermore, are these individual differences consistent across time and/or situations such that behavior becomes predictable?

3. Developmental perspective. Children at different ages and developmental levels may respond differently to anger exposure, thus influencing its impact. Emotional reactions and coping mechanisms will likely be qualitatively different for various age groups. Developmental change and continuity are areas of fundamental concern.

4. Transactional/bi-directional approach. The interaction between person variables and the environmental influences will determine the eventual expression of behavior patterns. The "goodness of fit" between the individual and his/her environment is of critical importance in determining adjustment.

5. Adaptation of risk groups versus normal groups. Certain individuals may be at greater risk to develop psychopathology as a function of exposure to angry environments. Identifying risk groups and determining differences in their coping styles from those of other groups will aid in determining factors contributing to this adverse reaction.

6. Factors of resilience. Not only should risk factors be identified, but personal and environmental variables that protect children from the deleterious effects of hostility in the home should also be established. This is particularly important from a clinical perspective in terms of identifying and building upon strengths of the child, family, or social support system.

## RESEARCH FINDINGS

Several studies have utilized a process-oriented observational approach to investigate the reactions of children to anger exposure. These studies address some of the fundamental issues outlined above. Two investigations examined the reaction of children to emotional displays of strangers, and two investigations examined the reaction of children to emotional displays of family members.

Cummings, Ianotti, and Zahn-Waxler (1985) investigated the reactions of 2-year-old toddlers to conflict exhibited between two strangers. The results indicate that children demonstrate a greater degree of distress, particularly evidenced in body posture, to anger episodes versus positive emotions. Furthermore, children showed more distress upon a second exposure to anger, and there was a significant correlation between children's distress reactions after first exposure and second exposure.

In terms of aggressive behavior, toddlers displayed more aggression toward playmates during post-anger periods and were more aggressive after the second anger exposure than after the first exposure. This was particularly true for behaviors indicative of intense aggression (i.e., hitting or kicking playmate). Sex differences emerged in that girls appeared more distressed during exposure than boys while boys were more aggressive after exposure than girls. Finally, toddlers who were preclassified as highly aggressive were more likely to show aggression after second exposure to anger, to evidence greater intensity of anger, and to evidence more continuity of aggression than those classified as low or moderately aggressive. Alternatively, low aggressive toddlers were more likely to show distress during anger episodes than were their counterparts.

A sample of preschool children, which included a follow-up of those participating in the aforementioned study, were subjected to similar experimental conditions (Cummings, 1987). Both objective/observational and subjective/self-report data were collected. The results indicate that preschoolers evidenced heightened emotional arousal during anger incidents, to include both positive and negative emotions. Furthermore, both verbal and physical aggression increased during the post-anger period. When questioned, the children reported feeling mad (43%), happy (33%), sad (15%), okay (6%), or scared (3%). Interestingly, 88% of those reporting happy feelings showed negative emotional reactions.

Congruency between response modes was examined by classifying children according to their behavioral emotional responses: ambivalents - 33% (showed both positive and negative emotions); concerned - 46% (showed only negative emotions); and unresponsive - 15% (showed no emotional response). The "ambivalents" demonstrated the greatest increase in physical and verbal aggression, were most likely to report their emotional reaction as happy, and were most likely to admit to impulses to express arousal. Interestingly, those children classified as "ambivalents" as preschoolers had also responded more aggressively to anger exposure as toddlers. The "concerned" children verbalized feelings of sadness and admitted to impulses to mediate the conflict. The behaviorally "unresponsive" children stated that they wanted to ignore the conflict but most often reported feeling angry. Thus by combining subjective and objective results there was evidence of incongruence among emotional and behavioral responses. Finally, there was evidence of developmental changes in that preschoolers more often evidenced positive emotion, distress, and preoccupation with the anger episode than did toddlers.

Children's responses to naturally occurring anger within the family have also been examined. Using toddlers ranging in age from 8 to 20 months, Cummings, Zahn-Waxler, and Radke-Yarrow (1981) found that anger (hit, push, scold, yell) and distress (cry, facial/verbal expression, shuts out, "pick-up bid") were the most common responses to naturally occurring interparental anger. Furthermore, children responded more frequently with distress and no response to anger versus affectionate interchanges, and more frequently with affectionate/prosocial and pleasure behaviors to affectionate versus anger displays. Finally, the more interparental fights the child was exposed to during the 9-month period assessed, the more likely the child was to respond with anger, distress, or affectionate/prosocial behavior and the less likely he/she was to respond with no emotional reaction. Children reported to witness five or more episodes of interparental anger were the only ones to become involved in the conflict by attempting to comfort, distract, or reconcile the parents.

A follow-up study using these same children at school-age (6 to 7 years) indicated that there were developmental changes in response patterns to interparental anger (Cummings, Zahn-Waxler, & Radke-Yarrow, 1984). At school age, children were more likely to react with comforting/intervening and less likely to react with smiling/excitement or aggression/anger relative to their responses as toddlers. Alternatively, children evidenced some individual consistency in that those who tended to respond emotionally as toddlers also tended to react emotionally at school age. Children also showed individual consistency across settings assessed (i.e., natural versus simulated). Finally, exposure to a high frequency of conflict during the 3-month period assessed increased the probability of an overt distress reaction.

In sum, these research results lend support to the importance of investigating the six fundamental issues outlined by Cummings and Cummings (1987). A perhaps obvious but importantly substantiated finding is that children identify and respond to background anger in their environments, even at very young ages. Most notably, changes in response patterns occur as a function of developmental level, with distress reaction becoming somewhat more subtle at older ages. Individual differences appear to exist among children in their typical coping responses to conflict, although there is clearly an interaction between individual characteristics and frequency of exposure to anger in determining emotional and behavioral reactions. However, several questions remain.

It is unclear as to which coping strategies are healthy and adaptive. Strategies that appear adaptive on the surface may actually be detrimental to the child's emotional well-being. For example, while intervening/diverting may seem healthier than acting-out aggressively, it is possible that this strategy would eventually involve the child in an unhealthy, triangulated relationship with the parents. Similarly, buffers that protect children from stressful home events have not been established. It has been suggested, for example, that a stable, healthy relationship with one parent ameliorates the negative effects of marital discord upon children (Rutter, 1971). Additional factors certainly exist and need to be identified. Finally, exposure to some degree of distress is likely to be essential for normal development in order to learn effective coping strategies. The question remains as to the optimal level of exposure to angry interchanges that promotes healthy development.



## CLINICAL IMPLICATIONS

Due to the military lifestyle resulting in frequent moves, parental absences, and separation from the extended family, the stability of the nuclear family is likely to be critical to healthy child development. Thus, the implications of these research results are pertinent in the psychological assessment and treatment of families, marriages, and child behavior problems. For example, with marital issues as the presenting problem, it is essential to assess the level of overt hostility present between partners, the length of the conflict, and the degree of involvement of the children. In treatment it is important for the couple to understand that their dyadic adjustment impacts upon the larger family system.

In child cases, the quality of the marital relationship must be examined and could potentially become the target area of treatment. Furthermore, the coping styles of the child must be assessed with identified weaknesses addressed in therapy. As scientist-practitioners it is incumbent upon us to continue to integrate empirical findings into our clinical practice.

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## A COMPARISON OF INTRAFAMILIAL AND EXTRAFAMILIAL CHILD SEX OFFENDERS

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Intrafamilial and extrafamilial child sex offenders were compared to empirically test Groth's (1982) predictions about group differences. This study compared 348 inmates (192 intrafamilial offenders and 156 extrafamilial offenders) on a range of demographic and historical characteristics. The INTRAFAMILIAL offenders tended to be older and more educated, which accounted for many relationships predicted by Groth. The present results suggest support for the model of the intrafamilial offender as a dysfunctional individual who disrupted his family rather than an individual stressed by a dysfunctional family.

Groth (1978) identified two patterns of pedophilic behavior, fixated and regressed. In the fixated pattern, sexual behavior toward children is viewed as an arrestment of psychological maturation. Fixated pedophiles have a primary sexual interest in children. Since they lack interest in sexual contact with agemates, they are usually single. Further, since they are characteristically immature, their sexual behavior is a compulsive, maladaptive attempt to resolve life issues. In contrast, regressed offender's sexual behavior is viewed as change in life-style. The regressed pedophiles' involvement with children coexists with sexual contact with agemates. They are usually married and the sexual behavior towards children is seen as a maladaptive attempt to cope with precipitating stress, especially family discord.

Later, Groth (1978) formalized his propositions about adult child sex offenders into a typology of pedophilia and expanded his formulations by asserting

- (a) Fixated offenders select males as their primary targets; conversely, regressed offenders primarily select female victims.
- (b) In regressed cases, there is more drug and alcohol involvement.
- (c) In 90% of incest cases, the perpetrator is considered regressed.

Groth and Birnbaum (1978) demonstrated some empirical support for this typology. However, no evidence was provided for the assertion that incest offenders are primarily regressed pedophiles. With the increasing influence of Groth's conceptual framework on the evaluation (Alford, Kasper & Bauman, 1984), treatment (Alford, Brown & Kasper, 1985), and official disposition policy in incest cases, empirical testing of Groth's formulations is needed.

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A telex dated June, 1985 from the Community and Family Support Center, Subject: Army Policy on Child and Spouse Abuse and Child Neglect stated "the service member who is accused of child sex abuse within the home often does not have pathological problems and hence is responsive to rehabilitative efforts." Correspondence from the Support Center cited Sgroi (1982) as the source of this information.

The purpose of this study is to compare convicted incest (intrafamilial) and nonincest (extrafamilial) child sex offenders on a range of variables to test Groth's assertions regarding the different characteristics of incest versus non-incest child sex offenders.

## METHOD

The subjects were 348 male inmates at a maximum security military prison convicted of a contact sex crime against a victim aged 15 years or less. Those who agreed to participate represented 92.5% of the eligible subjects. The intrafamilial child sex offender group consisted of 192 inmates convicted of at least one offense against a child in their nuclear family (including step or foster children). Cases involving the children of women with whom the offender had a "common law" marital relationship were included. The comparison group consisted of 156 inmates convicted of contact sex crimes against children with whom they had no kinship. Offenders who committed acts against a child in the extended family were excluded from both groups, as were the rare offenders who were convicted of both offense types.

Inmate information was collected through structured interviews and included type of offense, victim data, precipitating stress information, demographics, marriage and family history, and drug and alcohol history. The interviewers were not informed of the hypotheses being tested.

## RESULTS

Approximately 85% of the subjects claimed no previous felony convictions. In cases of multiple offense types, only those in which the child sex offense had the highest Severity of Crime Index (SCI) score (Department of Justice, 1984) were selected. Most (78%) had completed high school, 74% were Caucasians, 8% were Hispanic, and 18% were Black. Their age on arrival averaged 30.7 years (S.D. = 6.4) and their mean General Technical (GT) score (an estimate of intelligence with a mean of 100) on the Armed Services Vocational Aptitude Battery (Rossmeissl, Clessen, Wing, & Wang, 1983) was 107.2 (S.D. = 16.6).

The intrafamilial and extrafamilial offenders were compared on demographics to determine group equivalency (see Table 1). There were no statistically significant differences on SCI, GT, or inmate's rating of his origin family's socioeconomic status (SES). However, the intrafamilials were older on arrival  $F(1,336) = 36.4, p < .0001$  than the extrafamilials and they had completed more years of education  $F(1,338) = 5.0, p < .05$ . Since age and education were significantly correlated with numerous dependent measures, age and education were used as covariates in the analysis of the covariance (ANOVA) comparisons of offender groups. Further, they were used as control variables in contingency table "elaboration" analyses (Hy, Feig, and Regoli, 1983) of categorical dependent variables.

### Cultural Factors

Although most (64.1%) of the extrafamilial offenders were Caucasians, a significantly disproportionate number were Hispanics in comparison to the intrafamilial group  $\chi^2 (1, N = 348) = 18.8, p < .0001$ . A significantly greater proportion of intrafamilial offenders were Caucasians as compared to extrafamilials,  $\chi^2 (1, N = 340) = 9.04, p < .0001$ . There was no statistically significant difference between the groups in the proportion of offenders who were Black. Significantly more extrafamilial offenders were born,  $\chi^2 (1, N = 348) = 13.8, p < .001$  and raised  $\chi^2 (1, N = 348) = 16.3, p < .001$ , abroad as compared to incest offenders. However, even though a disproportionate number of extrafamilials also commit their offenses outside the continental United States,  $\chi^2 (1, N = 348) = 8.9, p < .0001$ , analysis revealed this relationship was confounded by age. Table 2 displays the factors.

### Marriage and Family

The intrafamilial offenders were more likely to have married at least once, but this relationship was accounted for by the intrafamilial's greater age. Analysis of the married sample revealed intrafamilials averaged significantly more previous marriages,  $F(1, 292) = 5.5, p < .05$ , than the extrafamilials (see Table 3), even when controlling for age and education. There were no significant differences between groups on parents' divorce rate or the number of spouse's previous marriages. Further, the intrafamilials had significantly more children than the other married child sex offenders,  $F(1, 292) = 18.8, p < .0001$ . Finally, the intrafamilial offenders married older women,  $F(1, 292) = 12.5, p < .0001$ , even when using the offender's age as a covariant.

### Precipitating Stressors

Table 4 lists the eight pre-offense environmental stressors most commonly cited by inmates as contributing factors to their offense. There were no statistically significant differences between the intrafamilial and extrafamilial groups by area of assignment, unit leaders, finances, parents, alcohol, spouse, family, and drugs. The extrafamilials were more likely to cite peers as a contributing pre-stressor  $\chi^2 (1, N = 346) = 8.04, p < .01$ . The intrafamilials were more likely to cite duty as a precipitating stressor,  $\chi^2 (1, N = 346) = 4.62, p < .05$ . However, elaboration analysis controlling for age demonstrated that age was the determinant in these relationships.

### Other Factors

Although extrafamilial offenders selected male victims at a higher rate (12.7%) than intrafamilials (6.5%) as predicted by Groth, this relationship only approached statistical significance,  $\chi^2 (1, N = 328) = 3.75, p = .053$ . As stated above, there was no statistically significant difference between the groups by percent citing alcohol or drugs as factors contributing to their offense behavior. However, intrafamilials reported prior participation in substance abuse programs more often (24.5% versus 10.3%,  $\chi^2 (1, N = 344) = 10.7, p < .01$ ).

## DISCUSSION

This study tested several predictions regarding characteristics of intrafamilial versus extrafamilial offenders. Support was obtained for Groth's observation of a higher marriage rate among intrafamilial offenders. However, age was the controlling variable for this relationship. Intrafamilial offenders were more likely to report a history of marital discord and were more likely to have experienced marriage failure prior to the offense. This is a pattern the intrafamilials did not share with their wives who were no more likely to have prior marriage failures than the wives of extrafamilial offenders. Further, there was no greater divorce history in the intrafamilial offender's family of origin.

Given that incest offenders did not cite spouse and family as precipitating stressors any more than extrafamilial child sex offenders, the findings tend to support the model of the offender as an immature individual who disrupted his family's functioning, in contrast to Groth's concept of an individual stressed by his dysfunctional family.

A victim opportunity effect may have accounted for the finding that incest offenders were older than extrafamilial offenders. That is, military personnel in general do not marry and start families until later in their careers. This pattern of married inmates being older holds for inmates in general, ( $M = 30.0$  versus  $M = 23.99$ ,  $F(1, 1099) = 295.4$ ,  $p < .0001$ ), not just incest offenders. Therefore, it may be that the older inmates have a greater "opportunity" to victimize their own children, since they are more likely to have married and had children.

There was no evidence that the greater substance abuse among incest offenders was directly related to the offense behavior. It seems more likely their substance abuse was a function of the same personal characteristics that also led to their offense, although this hypothesis was not directly tested in this study. The individual psychopathology of intrafamilial and extrafamilial child sex offenders is an area for future exploration.

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TABLE 1  
COMPARISON OF SEX OFFENDER GROUPS ON DEMOGRAPHICS

<u>Variable</u>	<u>Intrafamilial</u>		<u>Extrafamilial</u>		<u>F(1)</u>
	<u>Mean</u>	<u>n</u>	<u>Mean</u>	<u>n</u>	
Age	32.8	186	29.0	150	36.4***
Education	12.7	188	12.1	150	5.0*
SCI Score	23.2	192	24.0	150	1.1
GT	108.7	116	107.0	108	0.5
SES	1.4	114	1.2	88	0.8

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 \*\*\*  $p < .0001$   
 \*  $p < .05$



TABLE 2  
CULTURAL, MATERIAL AND RACIAL VARIABLES BY GROUP

	Intrafamilial		Extrafamilial		
	(N = 192)		(N = 156)		
<u>Variable</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>χ<sup>2</sup></u>
Married	186	96.9	118	75.6	19.7**
Parent Divorced	58	30.2	56	36.4	1.2
Hispanic	4	2.1	24	15.4	18.8**
Black	34	17.7	30	19.2	0.05
Caucasian	152	79.2	100	64.1	9.04*
Born Abroad	4	2.1	20	12.8	13.8**
Raised Abroad	4	2.1	22	14.1	16.3**
Crime Abroad <sup>a</sup>	58	31.5	74	48.1	8.9***

Note: Chi-square tests were adjusted using Yate's

<sup>a</sup>Due to missing observations, N = 338

\*\*\* p < .0001

\*\* p < .001

\* p < .01

TABLE 3  
MEANS AND F VALUES OF FAMILY VARIABLES BY OFFENDER GROUP

<u>Variable</u>	<u>Intrafamilial</u>		<u>Extrafamilial</u>		<u>F(1)</u>
	<u>Mean</u>	<u>n</u>	<u>Mean</u>	<u>n</u>	
Previous Marriages	0.49	180	0.23	112	5.5*
Spouse's Previous Marriages	0.47	176	0.39	112	0.5
Children	2.6	180	2.0	112	18.6***
Spouse's Age	34.5	168	30.2	104	12.5***

Note. Inmate's age and educational level were used as covariants. Only the married sample was used.

\*  $p < .05$   
\*\*\*  $p < .0001$

TABLE 4  
COMPARISON OF GROUPS ON PRECIPITATING STRESSORS

<u>Variable</u>	Intrafamilial		Extrafamilial		$\chi^2$
	n	%	n	%	
Spouse <sup>a</sup>	60	31.9	30	24.2	1.81
Parents	24	12.5	22	14.3	0.10
Family	34	17.7	22	14.3	0.51
Duty	34	17.7	14	9.1	4.62*
Area Assigned	10	5.2	14	9.1	1.44
Unit Leaders	8	4.2	10	6.5	0.53
Peers	0	0.0	8	5.2	8.04**
Finances	20	10.4	10	6.6	1.20
Drugs	30	15.6	20	13.0	0.29
Alcohol	50	26.0	40	26.0	0.00

Note. Chi-squared tests were adjusted using Yate's.

<sup>a</sup>Only the sample with spouses was used (N = 312).

\* p < .05

\*\* p < .01

DID YOU TAKE YOUR PILL: A SOCIAL AND PSYCHOLOGICAL  
PERSPECTIVE ON THE USE OF PSYCHOSTIMULANTS  
TO TREAT ATTENTION DEFICIT DISORDER  
WITH HYPERACTIVITY

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The author reviews literature relating to social and psychological aspects of using psychostimulants to treat Attention Deficit Disorder with Hyperactivity (ADD-H). Diagnostic considerations, treatment outcome literature, and factors leading to over reliance on psychostimulants are reviewed. Although short-term treatment outcome when these medications are used is promising, long-term outcome include iatrogenic aspects of using psychostimulants such as lowered self-esteem, lowered sense of personal responsibility for behavior, and negative attributions formed by others towards the child. The author recommends that attempts be made to use these medications less frequently and in conjunction with other interventions. When use of psychostimulants is indicated, careful attention to potential iatrogenic effects is required. Suggestions for the implementation of these recommendations are then discussed.

The teacher, she would always like be embarrassing me. She'd go, "Did you take your pill?" You know, everybody would tease me about that. The ones I knew - about that. They'd go "Go up to the office and take it." And I'd go up there and I took it and came back to class and then went through the rest of the day. You know, she seemed to like to do that every time. I still got in trouble at that school. And I was still sore at these people for embarrassing me. When I was taking it, they'd go (imitates them in a sing-song voice) "Hyper-Sam, Hyper-Sam." (Henker & Whalen, 1980a, p. 158)

This segment from an interview of a 13-year-old boy taking Ritalin for hyperactivity (now known as Attention Deficit with Hyperactivity or ADD-H) is both poignant and thought provoking. It clearly suggests that the use of psychostimulants to treat ADD-H may have "side effects" which go beyond the ones commonly reported in the Physician's Desk Reference (1986). While there is general acknowledgment of much confusion and disagreement regarding just what ADD-H is, its causes, and its proper treatment, the prescription of psychostimulants when ADD-H is diagnosed is almost automatic for many physicians. Yet, the youngster quoted above is clearly implying that his medication may be creating as well as solving problems for him. He raises the possibility of subtle and not so subtle social and psychological factors iatrogenic to the prescription of psychostimulants which might impact negatively in terms of treatment outcome and self-esteem. If these factors are present, the extent to which prescribing physicians inquire about them and monitor for them in their daily work with patients and the extent to which these iatrogenic factors and their effects are investigated become important questions. The existence of these factors would also add another dimension to the question of whether these medications are prescribed too freely and, if so, why? It is the goal of this paper to address these questions to the extent possible through a review of both recent and earlier, relevant literature and

research. Much of the research to be cited can be criticized for a variety of methodological shortcomings such as use of heterogeneous samples, lack of adequate diagnostic criteria, lack of clarity regarding treatments used, and lack of "blind" observers and experimenters to preclude biased observations. However, this paper is not intended to be a methodological critique of the literature, but, rather, a review of some of the findings and thinking which seem to be emerging from current research and a discussion of possible implications for assessment and treatment. Finally, this paper will focus on ADD-H rather than on the other subtypes of the more inclusive Attention Deficit Disorder (ADD) as it is this subtype which appears to be a primary concern to both parents and professionals and which usually is treated with psychostimulants.

#### ADD-H

ADD-H is one of three subtypes listed in the Diagnostic and Statistical Manual of Mental Disorders (third edition) or DSM-III (American Psychiatric Association, 1980) under the more general term Attention Deficit Disorder (ADD). The other two subtypes are referred to as ADD without Hyperactivity and ADD-Residual Type. ADD, both with and without hyperactivity is characterized by difficulties with concentration, sustained attention, and impulsivity, with onset before age seven. ADD-H has the additional feature of excessive motor movement or restlessness. ADD-Residual Type is applied to individuals who once met the criteria for ADD-H and still show signs of inattention and impulsivity but who no longer exhibit hyperactive symptoms. This later category was developed concurrently with the common assumption that most children with ADD-H would outgrow the hyperactive component by their teen years but might continue to show signs of problematic inattention and impulsivity. It is of interest, therefore, that recent research suggests that it may not be unusual for the full ADD-H syndrome to extend into adolescent and even adult years and that initial presentation in the teen years may be possible (Cantwell, 1985a, 1985b; Gittelman & Mannuzza, 1985; Mannuzza & Gittelman, 1984). Additionally, Lahey, Schaughency, Frame, and Strauss (1985) think that ADD-H and ADD without hyperactivity may be too dissimilar to be subtypes of the same overall disorder, describing youngsters with the later diagnosis as being shy, anxious, and withdrawn.

The subjective nature of the diagnostic criteria, the presence of few exclusionary criteria, and the absence of unequivocal, positive markers frequently result in lack of diagnostic reliability regarding individual children and a very heterogeneous group of youngsters labeled as ADD-H. (Whalen & Henker, 1980, pp. 3-51). Another important factor is that, according to DSM III, ADD-H is a replacement term for such previous labels as Hyperkinetic Syndrome, Hyperactive Child Syndrome, Minimal Cerebral Dysfunction. Thus, there is a strong implication that some type of neurological impairment underlies this disorder, though, this assumption is not explicitly stated in the DSM III, and evidence of brain pathology is not required for the diagnosis to be made.

This assumption can be traced back at least to the 1950s when Straus proposed that inattentive and overactive children may have sustained a "minimal" brain injury at birth (Schechter, 1982). In 1957 Laufer and Denhoff described a "Hyperkinetic Impulse Disorder" which was thought to be due to brain dysfunction and responsive to the use of psychostimulants because of a

presumed "paradoxical" effect. However, the vast majority of children diagnosed as ADD-H in this country show no clear signs of neurological defect (Rutter & Garmezy, 1983, pp. 775-911; Wortis, 1984). Apparently, many features reputed to be indicators of brain damage, such as impulsivity or hyperactivity, are, in fact indicators of psychiatric disorder, regardless of the presence or absence of brain damage (Rutter, 1981). Indeed, Rutter (1982) reports that, while children may develop serious behavioral and emotional abnormalities due to documented brain injuries which become subclinical on follow-up, the severity of the injury at the time of occurrence must be either quite extensive or have specific disorganizing properties. Very mild brain injury does not appear to cause such psychiatric problems, calling into question the appropriateness of the adjective "minimal" in Minimal Brain Dysfunction. Even the presence of so called neurological "soft" signs is of questionable significance, since many children with known neuropathology show no such signs, while a significant number of apparently normal children in the general population do (Rutter, 1982). Thus, serious doubt exists regarding the assumption of brain pathology for many of these children. Despite these doubts and the lack of a specific requirement that brain pathology be documented, the assumption of neuropathology exists for many, which may be a major reason for the marked heterogeneity among ADD-H diagnosed youngsters as well as the widely differing prevalence rates reported across cultures. For example, while between 3 and 12% of U.S. school age children are diagnosed as ADD-H (Henker & Whalen, 1980a, pp. 141-166), only 1 child in 1,000 was given this same diagnosis by the British in the Isle of Wright Study (Weiss, 1981). Apparently, the British tend to view evidence of a Conduct Disorder as exclusionary and require more evidence of possible organic involvement than do Americans to make the ADD-H diagnosis. As expressed by Wortis (1984), a true ADD-H child whose behavior does not represent a conduct disorder or plain educational delay may be like a Beaujolais wine--much more is sold than produced.

Despite the many doubts raised regarding organic pathology as a common, underlying cause of ADD-H, this presumption still colors the thinking of many physicians, teachers, parents, and even the children themselves (Henker & Whalen, 1980a, pp. 141-166). Thus, in the eyes of many, ADD-H is often viewed as a medical problem requiring a medical solution, usually in the form of psychostimulants. Psychostimulants have been used in the treatment of children with emotional and behavioral problems as far back as the 1930s. In a classical study, Bradley (1937) found that a significant number of youngsters in a residential treatment program responded to benzedine sulfate with more "subdued," that is, better controlled, behavior and a "spectacular" improvement of interest in school, especially, arithmetic. Since then, several psychostimulants have come on the market to include methylphenidate hydrochloride (Ritalin) and pemoline (Cylert), and their use for children diagnosed as ADD-H has skyrocketed. A 1971 survey in Illinois indicated that between 2 and 4% of school children were receiving medication for behavior problems (Schechter, 1982), and another survey found that Ritalin accounted for 88% of the psychoactive drugs used for children. In the 1960s 20% of children in Omaha, Nebraska, were receiving stimulants. It has been estimated that between 500,000 and 600,000 youngsters in the U.S. are receiving medication to control ADD-H symptoms at any given time (Safer, 1983; Volkmar, Hoder, & Cohen, 1985; Weiss, 1981). In contrast, Weiss in 1981 reported that Ritalin was not even available in France, Italy, Sweden, Spain, or Portugal at the time of his article.

## SHORT AND LONG-TERM BENEFITS AND LIMITATIONS

There appears to be a solid body of research indicating short-term benefits from the use of psychostimulants. Reported benefits include improved concentration, less purposeless activity, less aggression, and better fine motor coordination, rote memory, and overall classroom behavior (Collins, Whalen, & Henker, 1980, pp. 103-137; Weiss, 1981; Varley, 1984). Short-term benefits with respect to social-adaptive behavior are less certain. Whalen and Henker (1980, pp. 3-51) cite several studies indicating that children diagnosed as ADD-H and their mothers made more positive comments to each other when stimulants were used. Barkley, Karlsson, Pollard, and Murphy (1985); Cohen, Sullivan, Minde, Novak, and Keens (1983); and Whalen, Henken and Dotemoto (1980) all report a decrease in controlling and negative behaviors on the part of parents and teachers towards ADD-H children when medication was used. However, Collins et al. (1980, pp. 103-137) found that, while Ritalin was useful in improving behaviors and task-attending in a classroom setting, it did not seem to help children with ADD-H in a nonclassroom situation requiring social information processing and cooperation. These children tended to be headstrong, disagreed inappropriately, and had difficulty learning vicariously despite their medication. King and Young (1982) report that ADD-H children want to be liked by their peers but rated themselves unrealistically high on peer acceptance and social skills--a problem not helped by Ritalin. Schowalter (1979) reports that teachers are more likely to report improvement due to Ritalin than are parents, again suggesting that the benefits of this medication may be limited outside of the classroom. As stated by Henker and Whalen (1980b, pp. 321-363), it appears that pills do not create skills. Additionally, behavioral improvement on the part of medicated ADD-H youngsters does not always result in the increased positive reactions from important others one might hope for. Befera and Barkley (1985) found that the mothers of ADD-H youngsters on medication did not show more praise relative to those of children receiving a placebo, even though the behavior of the former youngsters improved significantly. Cohen et al. (1983) report that many of the mothers of ADD-H youngsters in their study were less responsive and less sensitive to positive changes in their children's behavior than were the mothers of control children. Despite these limitations, these medications have become very popular due to their positive effects on misconduct (Safer, 1983) and their tendency to modulate a certain intenseness frequently displayed by children with the ADD-H diagnosis (Henker, Astor-Dubin, & Varni, 1986). Overall, a 70 to 80% positive response among school age children has been reported (Weiss, 1981); there does appear to be a significant placebo effect ranging from 25 to 40% (Safer, 1983; Varley, 1984).

Unfortunately, attempts to assess the more long-term outcome of youngsters diagnosed as having ADD-H and treated with a variety of approaches, to include psychostimulants, have produced more mixed and disappointing results. Various studies of adolescents and adults diagnosed as having ADD-H or "hyperactivity" as children indicated that, though some of the symptoms had improved, they were still present to a significant extent. Studies and reviews by Cantwell (1985a, 1985b); Gittelman et al. (1985); Gittelman, Mannuzza, Shenker, and Bonagura (1985); Varley (1984, 1985); Volkmar et al. (1985); Safer (1983); Weiss (1985); and Weiss, Hechtman, Milroy, and Perlman (1985) all indicate the full presence of the ADD-H syndrome to include hyperactivity in 25 to 40% of their samples. "Core" symptoms were found in up to 80%. Continuing problems with academic failure, behavior difficulties, poor peer relations, and low self-esteem were reported in adolescents after 3-5 years of treatment, even when "good"

medication responders were separated from "poor" responders. While about 50% of adults appeared to enjoy some vocational success and an absence of serious pathology, up to 50% were reported to display "core" ADD-H symptoms with 10% to 50% showing antisocial signs. Gittelman, Mannuzza, Shenker, and Bonagura (1985) report that, even when an attempt was made to screen out subjects who had clear signs of a conduct disorder at the time of their original ADD-H diagnosis, 31% of their probands still qualified for an ADD-H diagnosis, and many had also developed a conduct disorder. Apparently, hyperactivity per se does not always improve with age, and children diagnosed as ADD-H run a high risk (up to a 50-50 chance) of developing a conduct disorder in late adolescence and early adulthood. While studies reporting on the use of more multidimensional treatment approaches, for example, medication and cognitive training, report somewhat better results, even some of these projects had disappointing outcomes (Cantwell, 1985a).

These results regarding long-term outcome are both disturbing and puzzling. Why is it that so many youngsters who, initially, show such encouraging responses to psychostimulants experience such disappointing long-term outcomes? One possible explanation is that many of the social, emotional, and family problems experienced by these youngsters and alluded to above, which cannot be addressed with medication, are not being addressed at all. Professionals are beginning to echo the need to address these problems experienced by youngsters with ADD-H symptoms more and more (Lennard, Epstein, Bernstein, & Ransom, 1970; Frances & Jensen, 1985; Schechter, 1982; Varley, 1984; Volkmar et al., 1985). Even the Physicians Desk Reference (1986) emphasizes the need for a complete medical, psychological, educational, and social history of each child before a psychostimulant is prescribed. Bradley in his classical study (1937) stated that use of psychostimulants could mask reactions of etiological significance and warns that only physicians trained in child psychiatry should use drugs to treat children with behavior disorders. Yet, these caveats often seem to be observed more in the breach as suggested by a recent article in Newsweek Magazine (Salholz, Washington, & Drew, 1987) reporting an investigation by Georgia's Composite State Board of Medical Examiners and the Federal Drug Enforcement Administration into charges that children who need nothing more than counseling are getting heavy doses of Ritalin instead. It appears to be a common practice to use psychostimulants as the sole treatment for ADD-H, due in part to the large numbers of children referred for behavior problems and the fact that psychostimulants are relatively cheap (Whalen & Henker, 1980, pp. 3-51). Nonmedication interventions (such as behavior modification and cognitive rehearsal), while promising, are oftentimes consuming and not always readily available to physicians. Additionally, they have not demonstrated short-term benefits in as clear-cut manner as have the stimulants (Whalen & Henker, 1980, pp. 3-51). Indeed, the very short-term efficiency of these drugs may reduce the likelihood that factors important to long-term positive outcome will be addressed and other treatments tried.

#### SOCIAL AND PSYCHOLOGICAL IATROGENIC FACTORS

In addition to the neglect of important psychological and social factors not addressed directly by medication, another possible explanation for the disappointing long-term outcome data may lie in negative psychological and social factors which may be iatrogenic to the use of psychostimulants. For example Collins et al. (1980, pp. 103-137), in his study of children diagnosed



as ADD-H and receiving Ritalin in a nonclassroom, social learning situation found that these children showed reduced energy, effort, vigor, and general happiness compared to ADD-H children receiving a placebo and controls. Lennard et al. (1970) points out that drugs prescribed to alter conscious experience and behavior may have a psychological and social impact that is different from that of a drug designed to fight infection. His point is that a drug that causes a child to do what most of his peers seem able to do through conscious will power (e.g., "pay attention") not only alters his physical state but also sets off complex psychological/social processes which are often quite variable and difficult to predict. Alexander and Malorurf (1983, pp. 913-981) state that cognitive and social factors related to the use of psychotropic medication may determine, not only the subsequent behavior of a child, but also the very meaning of the medication usage to that child and the adults around him. The process of placing children on psychotropic medication can affect not only their self perception but also the perceptions and attributions important others form of them. In a study reported by Henker and Whalen (1980b, pp. 321-363) adult respondents viewed a video tape of a boy described as having such behavior problems as restlessness, impulsivity, and concentration difficulties. One group of respondents was told that the boy was being treated with psychostimulants, while a second group was told that he was being treated with a combination of educational family interventions. A third group was told he was receiving no treatment. Among the findings, it was discovered that respondents who thought the boy was being treated with medicine were more likely to attribute his difficulties to a "nervous system dysfunction," while the group who thought the boy was being treated with a school-family program were more likely to attribute his difficulties to nonmedical factors such as "other people." Additionally, respondents who were told that the child was receiving Ritalin viewed his problems as more serious than those in the other two groups.

Henker and Whalen (1980a, pp. 141-166) employed a semistructured interview technique with 27 children and some of their parents to assess possible attributions and perceptions relating to ADD-H and treatment with psychostimulants. Most of these youngsters (especially, the younger ones) ascribed the causes of their ADD-H problems and related solutions to physiological factors beyond their control. (Cohen and Thompson [1982] had similar findings). This contrasted with their answers to questions which did not refer to ADD or psychostimulants and which indicated a greater sense of perceived responsibility and control. For the most part, they viewed the decision to discontinue their medication as one which would be up to their doctor or depend on their biological maturation. They seldom were able to cite behavior criteria or acknowledge an active role in the question of when to discontinue the medication. Many of these children and their parents tried to keep the use of medication a secret from peers due to fears of stigmatization and embarrassment/teasing. Many expressed fears of being embarrassed by their teachers (though these concerns must be weighed against the potential stigma of being in trouble a lot when not taking medication). Most of the children acknowledged some benefits from their drug treatment, saying it stopped them from doing "mean" or "dumb" things and helped them to be "good" and concentrate better. Yet, for many, this appeared to be a reluctant admission. Many clearly did not like the medicine, complaining of its bad taste and attending stigmatization. Some complained about a loss in athletic or fighting ability. Interestingly, youngsters who expressed lower acceptance of the medication were also more likely to attribute the cause of their problems to personal and social factors than were children with higher medication acceptance. Many

parents were also highly ambivalent about the medication, and some kept its use a secret from their own children, calling the pills "vitamins" to help protect their youngster's self-esteem or, perhaps, to deal with their own sense of guilt. A dislike or marked ambivalence regarding psychostimulants, fear of stigmatization, and reluctant admission of benefits have been reported by other investigators (e.g., Cantwell, 1985a; Cohen and Thompson, 1982; Sleator, Ullman, & Neumann, 1982; and Weiss, 1981).

The results of these investigations suggest that compliance may be an important issue. A number of investigators to include Brown, Borden, and Clingerman (1985) and Kauffman, Smith-Wright, Reese, Simpson, and Jones (1981), indicate that lack of compliance is a serious problem, both clinically and with respect to research. For example, using number of pills left over the urine analysis, Kauffman et al. (1981) found that what left the bottle did not necessarily make its way to the patient. Patient compliance averaged about 60 to 65% but with a range of 0% to 100%, and, at one time, or another, over one half of the youngsters registered a positive in their urine analysis when they were supposed to be taking a placebo ("positive noncompliance"). This was probably due to parents giving medication prescribed earlier or by another physician. Kauffman and his colleagues point out that failure to take medication as instructed often goes unrecognized as a possible reason for often confusing and contradictory research results. Negative noncompliance could well reduce the apparent efficiency of the drug, especially with respect to long-term outcome, while positive noncompliance may exaggerate any "placebo" effect. In addressing possible reasons for negative noncompliance (by far the more frequent occurrence), Havens (1985) speculates that, in addition to unpleasant side effects, perceived social stigma, secondary gain from symptoms, and monetary expense, behavior symptoms may perform a function in the regulation of the youngster's internal and external life. Applying this hypothesis to ADD-H, a youngster's symptoms may serve to help preserve a family's stability by keeping the focus away from other, potentially more destabilizing family issues. The very benefits of medication could, thus, threaten the family's stability, causing a child and his parents to collude unconsciously to "forget" the medication. In cases where such "forgetting" is not a psychological option for the family, the resulting destabilization itself could contribute to poor long-term outcome for the youngster.

Among the concerns regarding possible social and psychological iatrogenic effects of psychostimulants are concerns about their impact on a youngster's self-esteem and self-concept. Harter (1983, pp. 275-385), in her excellent and comprehensive discussion of the development of the "self-system," quotes as one example of a definition of self-esteem an excerpt from Coopersmith (1967):

...the evaluation which the individual makes and customarily maintains with regard to himself; it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself to be capable, significantly successful, and worthy. In short, self-esteem is a personal judgment of worthiness that is expressed in the attitudes the individual holds toward himself. (p. 5)

Harter goes on to describe research indicating some developmental age trends with respect to the ability to form this "personal judgment." Apparently, most children at age 6 seem able to evaluate others, but not themselves. By age 7, most youngsters are aware of the evaluations others are making of them, but many cannot yet evaluate themselves independently. By age

8, many are able to evaluate themselves based on the appraisals of others, and by age 8 or 9, many children can understand the idea of being ashamed or proud of themselves in the absence of others' appraisals. Harter also makes the point that, while the concept of a global self-esteem seems to have some validity, there also appear to be situational components, and that a change in one aspect or component does not always result in a change in another. Thus, improvement in a youngster's perceived academic competence resulting from benefits of medication would not necessarily generalize to perceived social competence or enhanced global self-esteem. A major point made by Harter is that the extent to which children feel responsible for and in control of their successes and failures plays a major role in their self-concept and self-esteem. She reports a variety of studies which indicate that the more uncertain children are regarding what causes their successes and failures in school, the lower their self-perceived academic competence. A sense of self-control seems to become important to self-concept and self-esteem in children during middle childhood, and she cites numerous studies indicating that a sense of internal responsibility for successes is highly reinforcing and enhancing of a positive self-esteem.

Extrapolating again to the treatment of ADD-H, when use of psychostimulants results in short-term benefits, to what extent does the youngster feel personally responsible for these improvements? To what do his peers and family attribute his successes, and how does this affect long-term outcome and evolving self-concept? The answers to these questions are by no means obvious, as some children, teachers, and parents may think of the medicine as helping a child to bring his personal resources to bear on the tasks at hand, so that successes achieved by the child belong to the child. Others may think of the medicine as being in control and almost completely responsible for successes. There could also be conflicting attributions, with the child attributing successes to his own efforts and parents or teachers attributing the same successes to the medication.

Unfortunately, there are few studies which address this question directly, but a few relevant ones will be mentioned. Amirkhan (1982) asked 80 children described as either ADD-H and receiving medication, ADD-H but without medication, learning disabled, or "typical" children to read a series of vignettes about a hypothetical boy who experienced either a success or a failure on a school test. Fifteen teachers also read the same vignettes, which described the hypothetical boy as an ADD-H child who had taken his medicine, an ADD-H child who had "forgotten" to take his medicine, or a "typical" boy. Following the vignettes, each of the subjects answered a series of questions designed to determine to what extent they attributed the boy's successes and failures to external factors (such as medicine, test difficulty, or the teacher) vs. internal factors (such as effort or ability). They also tried to predict how well the boy would do on a future test. Amirkhan found that all subject groups responded in a similar fashion and that expectations regarding future performance of the hypothetical, ADD-H boy on medication were greater than for the ADD-H boy who "forgot" his medication. Successes of the boy described as "typical" were attributed to effort, ability, and a good breakfast. Successes of the boy described as ADD-H and on medication were ascribed, primarily, to the medicine, while successes of the ADD-H boy who "forgot" his medication were attributed to effort. Amirkhan also reports the results of a pilot study which suggests that ability and medication are considered by many to be stable factors, while effort (the factor thought to be responsible for the successes of the ADD-H boy who "forgot" his medicine) is

considered to be an unstable factor. Thus, Amirkhan concludes that, while teachers and peers expected a better performance from medicated ADD-H children, they also saw such children as being less personally responsible for their success, less reliable in their performance, and, therefore, less deserving of credit. The possibility is thus raised that some children on medication learn to attribute their behavior improvement to causes beyond personal control and to devalue their own potential contributions to successes. Burgental, Whalen, and Henker (1977) raise similar concerns in a study which compared a group of ADD-H boys on medication with an ADD-H group not receiving medication regarding their responses to two different classroom tutoring programs. One program emphasized a verbal, self-control approach and was "internally" oriented. The other used a social reinforcement and was "externally" oriented. Each child was also assessed prior to the programs as to whether they tended to attribute their classroom performance to personal (internal) or nonpersonal (external) factors. Post-tutoring evaluation found evidence of greater effectiveness for the self-control approach among the children with high perceived personal causality and among those children who were not receiving medication. The social reinforcement program worked best with the children with low perceived personal causality and among children receiving medication. Thus, classroom performance improved most when the implicit attributional emphasis of the intervention matched the child's causal attributions. Also, because ADD-H children on medication did not do as well on the self-control approach as they did on the social reinforcement program, while unmedicated ADD-H children showed an opposing trend, the authors express the same concerns mentioned by Amirkhan (1982) above. Specifically, they raise the possibility that the use of psychostimulants might reduce a child's attributions of personal responsibility for his successes and failures.

While the two studies just cited are thought provoking, they are by no means conclusive. In the same study just described, Burgental et al. (1977) report that the ADD-H subjects receiving medication showed a trend towards producing higher personal causality scores prior to the tutoring programs than did nonmedicated subjects. Cohen and Thompson (1982) in their study cited earlier, found that some youngsters who had been on medication for six months for treatment of ADD-H showed a significant shift toward feelings of internal control and a significant increase in self-acceptance. Whalen and Henker (1980, pp. 3-51) report similar findings for some children.

Thus, not all ADD-H children on medication form attributions of external responsibility for their successes and failures. But some probably do, and the possibility exists that the use of the medication may be a causative factor. In addition to attributions formed by children and adults, another drug-related, iatrogenic factor may be a phenomenon called state-dependent learning, in which responses learned under the influence of a drug may not transfer to a drug free state. Whalen and Henker (1980, pp. 3-51) cite several studies which indicate that this phenomenon may well be at work with respect to some children. A related concern expressed by them is that children who have been on a psychoactive drug for years (as is often the case for ADD-H) may forget what it is like to be drug free and may feel uncomfortable with their natural behavior and feelings. Thus, when medication is discontinued, as frequently occurs in adolescence, the youngsters may feel as if they are different people, and both they and their families could have difficulty adjusting to the difference and resulting discomfiture.

Given the possibility of the negative social and psychological "side effects" mentioned above, to what extent do prescribing physicians discuss these possible effects with families and monitor for their presence? It is the impression of Whalen and Henker (1980, pp. 3-51) that physicians rarely interview children or families regarding their attitudes, feelings, and opinions concerning medication. They also cite a 1973 study reporting that only 55% of physicians surveyed employed what was described as minimal monitoring of children on psychostimulants. Minimal monitoring was defined in this study as a telephone call or office visit at least two times in six months or three times in one year. That 45% of physicians surveyed did not meet even this minimum criterion does not bode well for adequate monitoring of iatrogenic factors. Hopefully, the situation has improved since the study was published, but data regarding this question are difficult to obtain.

#### FACTORS SHAPING THE DECISION TO PRESCRIBE

Despite the documented short-term benefits of psychostimulants, the Physicians' Desk Reference (1986) emphasizes that medication is not indicated for all children diagnosed as ADD-H. In view of this caveat, the poor long-term outcome research, and the possible negative iatrogenic effects of these medications, one begins to wonder why psychostimulants are prescribed as frequently as they are--often as a first line of treatment. While low cost and ready availability of these medications provide partial answers, a potentially more important explanation may lie in a complex of historical, social, and psychological factors which affect not only children and their families but also the medical establishment, the schools, and other social institutions. One such factor identified by some investigators has been the medicalization of phenomena which were once considered behavioral, psychological, or even normal, and the march of organically oriented physicians into the field of child rearing and behavior problems.

Schechter (1982) suggests a number of historical and social phenomena which account for this trend. One was the dramatic impact of Dr. Benjamin Spock's book The Common Sense Book of Infant and Child Care in 1945 on parents' expectations of pediatricians. In addition to earaches and sore throats, pediatricians were now supposed to advise on the child's psychological development and psychosocial issues despite a lack of formal training in these areas. Thus, according to Schechter, pediatricians had to confront these increased parental expectations with training that still emphasized dealing with specific organ failure through a reductionist approach. The frequent association of ADD-H with the assumption of brain injury makes this syndrome particularly susceptible to this trend. Schechter also points out that the assumption of a paradoxical response in ADD-H children led physicians to use psychostimulants as an assessment procedure as well as a treatment. If the stimulant drug, paradoxically, slowed the youngster down, it was presumed that he had ADD-H and that medication was the treatment of choice. The idea that prescribing a drug could help diagnose a complex and vague disorder must have been quite alluring. Unfortunately, more recent research (see Henker & Whalen, 1980b, pp. 321-363; Varley, 1984; Weiss, 1981) suggests that children and adults in the general population respond to psychostimulants in the same way as children diagnosed as ADD-H, casting serious doubt on the validity of the paradoxical response. One wonders how many of the large number of children receiving Ritalin have been inappropriately diagnosed as ADD-H based on the paradoxical response assumption. Other factors mentioned by Schechter include

a tendency among physicians to forget about the concept of "range of normal variability," the glorification of science and professionalism in the 20th century, and the decline of the extended family, which resulted in increased responsibility being given to physicians for advice about child rearing. Part of the increase in social pressure to medicalize and label deviant behavior may also represent attempts to reduce the sense of guilt and responsibility experienced by parents and teachers in response to the child's difficulties.

Lennard et al. (1970) point out that the pharmaceutical industry makes a major contribution to this medicalization trend by labeling common human and personal problems (i.e., loss of a loved one or anxiety about leaving home to go to college) as psychiatric and medical, requiring use of a medication. There is often the implication that the effect of the drug will be very specific in relieving a particular symptom, and the fact that most drugs have a variety of diffuse effects is buried in small print under "Side Effects." For example, a recent advertisement for Ritalin in a pediatric medical journal (Pediatrics, 1987) shows a young boy eagerly raising his hand in class to answer the teacher's question. To the credit of the sponsoring drug company, the caveats mentioned in the Physicians Desk Reference (1986) regarding use of Ritalin are stated in their advertisement. However, the picture clearly appeals to the anxiety parents often bring to their pediatrician about their child's school performance and implies that Ritalin will make their child a competent, eager, interested student. This flies in the face of the long-term outcome research cited above, suggesting that academic failure continues to be a major problem for many of these youngsters despite the use of psychostimulants. Lennard et al. further state that attempts to regulate personal and interpersonal processes through medication may erode a group's ability to make provisions and develop strategies to deal with psychological problems.

Mendel (1967) suggests that medication, especially medication designed to alter behavior or emotional experiences, may often be prescribed to meet the physician's needs as well as those of the patient. The physician may be acting out of a sense of helplessness as he attempts to control behavior one normally expects to be able to influence through social means. The youngster's behavior may be reactive primarily to other people and factors beyond that physician's direct span of influence, heightening his sense of helplessness. Physicians may also use a pill as a substitute for themselves when they don't feel they can be available to the patient either in terms of time or in terms of their ability to use themselves therapeutically. Mendel found, for example, that more experienced physicians on an inpatient, acute-care, psychiatric ward prescribed psychoactive drugs far less often for psychotic patients than did physicians with less experience. Patients and physicians also often have very different agendas. While the patient may be looking for comforting or permission to aggress and then be forgiven, the physician may be looking for a way to keep the patient out of trouble and turn to medication as a substitute for him or herself (Havens, 1958).

Frequently, physicians may become wedded to the use of medication due to its potential, short-term benefits and not avail themselves of the chance to learn about other beneficial though less obvious interventions which may be more helpful in the long run. Mendel (1967) reports, for example, that, when a rule was instituted on an acute-care psychiatric ward requiring that physicians wait 12 hours before prescribing medication to new admissions, the percentage of patients who ultimately had medication prescribed during their stay dropped

from 82% to 27%. Thus, improvement which occurred during the first 12 hours, that was initially attributed to the medication, was actually due to other factors such as coming into the hospital. Collins et al. (1980, pp. 103-137) reports that such interventions as lowering levels of ambivalent noise in the classroom or easing levels of task difficulty can produce results among ADD-H youngsters which are similar to pharmacological interventions.

To use medication as a second line of treatment or to forego its use entirely is usually both complex and frustrating due to an increased need to involve multiple agencies and social systems in an integrated, multidimensional approach. Robin and Bosco (1980, pp. 167-184) point out, for example, that the effective treatment of these youngsters requires that three very different social systems--the family, the schools, and the medical community--must collaborate with each other to form an integrated treatment plan. Such successful collaboration is a major challenge because each of these systems has a need to protect its own territory or integrity, and this often reduces their willingness to open themselves to each other. Additionally, each system has unique perceptions, assumptions, attitudes, and knowledge regarding these youngsters and their problems. Thus, what the family perceives as unique and overwhelming, the school may see as serious but only one of many chronic educational difficulties. Physicians may view the same problem as fairly routine and far less serious than other illnesses. Robin et al. found major areas of disagreement among the parents, teachers, and physicians of 35 children being treated for ADD-H, especially, when questions pertained to specific children being treated. These disagreements centered around such basic issues as who should be responsible for what and what should be done. Most of the disagreement occurred between either teachers and physicians or parents and physicians. The greatest amount of disagreement in this study occurred between the parents and physicians (the two most permanent people involved in each youngster's care). People in all three social systems expressed much anger and frustration regarding collaborative difficulties. Robin et al. state that only a small percentage of the ADD-H children in his sample were getting some kind of systematic, integrated approach, largely, due to the efforts of aggressive, self-educated, determined parents who were able to become quasi-members of the other two systems. Overall, the social reality that was found in this study of ADD-H treatment matched the symptoms of the ADD-H disorder--unpredictability, chaos, and no consistent pattern, with recurring outbreaks of anger and aggression. It is, therefore, no wonder that some physicians would rather write a prescription than tackle the demands of forming an integrated multidimensional treatment program.

Whalen and Henker (1980, pp. 3-51) speculate that the frequent use of medication to treat children with behavior problems may relate to the observation that, when diagnostic services and treatment become available for a disorder, that disorder is diagnosed more frequently. At the same time, the range of difficulties and people deemed appropriate for the particular diagnosis and treatment also expands. Thus, many children who would have been called "difficult" or "hard to handle" 30 years ago are now given a medical label. Stimulants which were used only for latency-age youngsters 20 years ago are now being used more and more frequently for adolescents, adults, and even toddlers. Hence, the discovery of a treatment increases the prevalence of the disorder, which, in turn, increases the use of the treatment, etc. Additionally, discovery of a new disorder or treatment often results in a search for "missed cases," which can lead, in turn, to the propagation of mythical prevalence rates. In other words, once a specific prevalence rate is

accepted or expected, a failure to find this rate in a geographical region or school may lead to fears the disorder is being underdiagnosed and to active "case hunts." Given the lack of precision regarding the diagnosing of ADD-H, this phenomenon can easily lead to over diagnosis and treatment.

Whalen and Henker (1980, pp. 3-51) also speculate that, just as focusing on a child may help a family avoid difficult and potentially destabilizing problems, various societal agencies may also sidestep troublesome social and moral dilemmas such as discrimination, poor teaching, and poor allocation of resources by viewing the child as a patient and the pill as the solution to his problems. Parents may also turn to medicine due to frustration with educational system responses.

Other writers comment on a lack of tolerance in society for child-like behavior as an explanation for the ready use of medication for "behavior problems." Growing up and being a big boy or girl is highly valued, while behaving in a "childish" fashion is not (Harter, 1983, pp. 275-385). In a satirical article The Etiology and Treatment of Childhood, Jordan Smoller (1985) writes, "Despite its apparently high spontaneous remission rate, childhood remains one of the most serious and rapidly growing disorders facing mental health professionals today.... Clearly, much more research is needed before we can give any real hope to the millions of victims wracked by this insidious disorder" (p. 6).

The writers cited in this section describe a network of social forces which lead to an over reliance on the use of psychostimulants to treat ADD-H. In addition, these same forces can lead to the use of these medications in the treatment of children whose behavior is troubling but who do not meet the criteria for ADD-H. (Examples would be children with certain types of Conduct Disorders, Adjustment Disorders, or Phase of Life Problems.) This possibility raises some interesting legal and ethical issues. On the one hand, some investigators have found that psychostimulants can provide even normal children and adults with some benefits. On the other hand, iatrogenic effects are a significant risk, and the Physicians Desk Reference (1986) limits the use of such drugs as Ritalin to ADD and narcolepsy. Further discussion of this issue is beyond the scope of this paper but worth considering.

## DISCUSSION

Feelings run high when it comes to use of psychoactive drugs, especially psychostimulants, with children. Some professionals state that it is criminal not to use a drug that might potentially benefit a child. Others equate use of psychostimulants on children in the United States with committing political dissenters to mental hospitals in the Soviet Union. This paper is not meant to be an indictment of psychostimulants. There is ample evidence that these medications help with respect to some difficulties which, if not modulated, frequently lead to school suspension, expulsion, or social ostracism. While the long-term outcome of children diagnosed as ADD-H as a group is less promising than had been hoped, a significant percentage of these youngsters (about 50%) seem to make at least a minimally adequate adjustment as adults. It should also be acknowledged that not using these medications can potentially exact a toll, not only on the youngster and his family, but also on his teachers and classmates. For example, Henker and Whalen (1980b, pp. 321-363) report a 1977 study which showed that the presence of an ADD-H child in a



classroom significantly increases the amount of negative feedback teachers give to normal children in the same class. This study also raises the question of whose needs should be given primary consideration regarding the use of medications. What is best for an individual child may not always be what is best for his classmates. Due to the complexity of this issue, it can only be identified but not discussed in this paper.

The data cited above indicate the possibility of significant, iatrogenic effects from the prescribing of psychostimulants which may negatively affect some children. Whalen and Henker (1976) state:

Sooner or later, the medication becomes a public event. Teachers, peers, and parents attach new labels to the child and restructure role definitions and demands, altering their expectations and reactions. They begin to perceive the youngster as a child on medication, and the various meanings that medication holds for them affect their responses, sometimes independently of the child's own actions (italicized by the author). Compared with direct effects and side effects, these unintended, sociocognitive consequences of drug treatment may be more pervasive and less reversible. (p. 1122)

While our collective consciences have been rightly raised by opinions and statements such as the one above, it is still not known who is most at risk regarding these factors or just what their impact is likely to be for a given child. This author could not find a single study which attempted to assess the extent and manner in which attributions and feelings on the part of children and adults regarding ADD-H and psychostimulants affect short or long-term outcome. This appears to be a glaring hole in our knowledge which definitely needs to be addressed in the future. As Whalen and Henker (1980, pp. 3-51) state, the bulk of psychostimulant research has been on direct effects, as these phenomena lend themselves more readily to objective and quantitative assessment. It is more difficult to research the broader impact of treatment on attitudes, professional practices, and social systems or vice versa, so less has been done. Yet, it may be these later phenomena that have the greater impact on society.

Meanwhile, what of the concerns expressed about the medicalization of what may often be more of a social/psychological/behavioral problem? Despite Bradley's warning that drugs for the treatment of behavior disorders should be prescribed only by physicians trained in child psychiatry (1937), Dr. Spock appears to have helped launch a ship which, though leaks appear from time to time, will remain afloat for the foreseeable future. Clearly, the demands from parents and teachers for intervention would overwhelm the child psychiatrists who are available. Hopefully, medical schools are beginning to respond to this expanded role of the pediatrician by providing training about the psychological development of children and family dynamics. However, at present psychostimulants are still prescribed too frequently and quickly, due in large part to the medicalization phenomenon with all the attending social and psychological ramifications enumerated above. Less frequent usage is called for, and, when a careful evaluation indicates that psychostimulants need to be prescribed, attention to and monitoring of the various possible attributions and other psychological and social factors iatrogenic to their use needs to occur. While these iatrogenic factors probably have varying impacts on children, the data reported previously indicate the likelihood of adverse impacts on at least some children. A physician who is aware of the multiple factors and risks

attendant to the prescription of stimulants will be less likely to allow himself to be pressured into a decision based on a single, 30 minute or less office visit. Frequent follow-up appointments (initially weekly or bi-weekly followed by monthly) for refills are needed to address the possible social/psychological as well as physiological effects of the prescribed drug. Asking a youngster if his friends know he is taking Ritalin and how would he feel if they did, or whether he ever feels embarrassed by his parents or teacher because he takes Ritalin can open the door to valuable discussions. In those instances where social stigma is a problem, use of a sustained release form of Ritalin or use of Cylert, which requires only a morning dose, may help by eliminating the need for a child to receive a pill during school hours. A personal call from the physician to the teacher to discuss possible problems with social stigma and clear up misconceptions can also work wonders at times. Asking a parent why he thinks his child is taking the drug, what he thinks it does, and how he feels about it, especially, several weeks or months after these issues were raised initially, can be most useful in addressing evolving ambivalence or assumptions of "brain damage." These issues usually require repeated discussions. Brown et al. (1985) report that counseling designed to help parents form decisions regarding whether or not to medicate their children enhances adherence to instructions.

Whalen and Henker (1980, pp. 3-51) state that those causal attributions which are first embraced are the ones that tend to endure. Once people ascribe positive behavior to medication, it may be very hard to change this because psychostimulants are so often a first line of treatment. In view of the importance that a sense of internal control and personal responsibility has for the evolution of positive self-esteem, it might be best if these medications are tried last rather than first. When they do seem indicated, an attempt to undersell them and emphasize their roles as merely aids to the expression of already existing personal resources would seem advisable. This would appear to be especially important during middle childhood years, and it may also help address the issue of parental ambivalence. Slimmer and Brown (1985) state that parents report less ambivalence regarding the use of psychostimulants when explanations about them emphasize behavioral actions rather than physiological mechanisms and when the parents are encouraged to question and react rather than listen passively in a lecture format.

An attempt to assess the youngster's desire to change his behavior or reactivity and, in essence, form an alliance with him as well as his parents, would be important. The extent to which any improvement coincides with what the youngster wants to achieve will likely enhance his sense of responsibility for the improvement as opposed to feeling that the benefits were things done to him by the medicine. Additionally, children's rights to treatment and rights to refuse treatment are being strongly upheld by the courts (Henker and Whalen, 1980b, pp. 321-363). Frequently, a child's interests may be best served by substantial changes in school or at home rather than through medication, even though parents or teachers may be initially discomforted by these changes. Hence, viewing a youngster as a possible source for solutions as well as problems would seem much advised.

It is often difficult to assess how much improvement is actually due to the medication and how much is due to other extrinsic factors (a change in family dynamics for example) and intrinsic factors (such as an increased desire to do well). Periodic use of a placebo in a single blind, or, more ideally, a double blind format would provide an opportunity for everyone to find out. Whalen and

Henker (1980, pp. 3-51) cite studies which indicate that anywhere from 5 to 26% (depending on dosage and treatment length) of ADD-H youngsters on medication are able to function without it. Even if only the lower figure is actually correct, this means that at least 25,000 children are taking psychostimulants needlessly. While there may be some resistance from parents to doing this during the school year, it would be precisely at this time that a chance presents itself to give a youngster some credit for his enhanced accomplishments. Should the youngster not do well on placebos, this would at least reassure everyone that the medication is needed and is doing its job.

An attempt to break down the barriers among parents, teachers, and physicians regarding the evaluation and treatment of youngsters suspected of ADD-H is clearly needed. The confusion, chaos, and frustration reported by Robin et al. (1980, pp. 167-184) when members of these groups attempt to form an integrated treatment approach certainly is not helping these children. It seems to this author that communication among these three systems is crucial and that greater emphasis needs to be placed on doctor-teacher interaction so that parents do not always have to serve as telegraph wires. According to Whalen and Henker (1980, pp. 3-51), only 22% of teachers surveyed in the midwest reported that physicians requested school evaluations of children in their classes who were taking Ritalin. A survey of teachers instructing children taking Ritalin in New York revealed that only 18% had had direct contact with physicians. Considering that ADD-H is frequently manifested in a classroom rather than in a doctor's office and that DSM III states that "...primary consideration should be given to the teacher reports because of greater familiarity with age-appropriate norms" (American Psychiatric Association, 1980, p. 43), these findings suggest professional behavior which is highly questionable. If parents are getting an evaluation of their child at the request of a teacher, it seems to this author that the teacher deserves a personal reply from the physician either in writing or by phone (with parental permission of course) in much the same way as would be done if the request for consultation had come from another physician. If a teacher is confused or unhappy about a treatment decision made by a physician regarding a pupil, that teacher owes it to that child as well as to him or herself to request clarification. Having the physician attend a parent-teacher conference or special educational staffing in those few cases where there appears to be more than the usual amount of conflict among agencies can sometimes work wonders. As should be obvious by now, use of psychostimulants to address behavioral and emotional difficulties requires that a child receive more, and not less, of a physician's time.

## CONCLUSION

The question, "Did you take your pill?" can have many meanings. It could indicate concern for the child ("If you take your pill, your day will go better"), or it could indicate self concern by the questioner ("If you don't take your pill, I may need one"). It could imply a belief that the child's behavior is due to a Ritalin deficiency rather than other factors ("The reason you are behaving this way is that you didn't take your pill"). It could convey the idea that he is fundamentally different from other children ("Take your pill so you will be more like normal kids"). The question also reflects a movement by society to pills as a solution to problems. It is hoped that this paper will serve to sensitize responsible adults to the many social and psychological issues which attend the prescription of psychostimulants and other psychoactive drugs for children and that the result will be greater care and caution in their use and in the interpretation of what their use means.

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## FOOTNOTES

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<sup>1</sup> An example of such labeling can be found prior to the Civil War when a "disease" called Drapedomania was invented to explain run-away behavior by slaves (Schechter, 1982).



## PERSPECTIVE-TAKING SKILLS AND SOCIAL DEVELOPMENT

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A critical component of mature social cognition is the ability to perceive situations from the perspective of another. This is a complicated mental operation that requires that one put aside an egocentric perspective and, through observation and inference, come to some conclusion about the intentions, attitudes, emotions, thoughts, and perceptions of others that may guide one's response to them (Flavell, 1977). The ability to perspective-take usually emerges during a transition in the child's cognitive capabilities from preoperational thinking characterized by (a) the emergence of symbolic thought without the capacity to use these symbols in logical operations and (b) a reliance on one's own experience to explain events observed in the environment (an egocentric cognitive style) to a concrete operational style of thinking characterized by (a) the ability to think logically about familiar concrete things and (b) the ability to move away from one's own perspective and adopt the viewpoint of another (Piaget & Inhelder, 1957). Although there are sizable individual differences in the age at which this transition begins and ends, it appears that the transition is most likely to occur between the ages 4-9 (Kurdek & Rodgon, 1975).

Perspective-taking has been identified as an important predictor of social adjustment (Flavell, Botkin, Fry, Wright, & Jarvis, 1968). Since social interactions are generally complicated phenomena, it can be argued that perspective-taking is a multidimensional skill. Kurdek and Rodgon (1975) distinguished perceptual, cognitive, and affective perspective-taking among school-age children and demonstrated increased accuracy with maturity.

However, they, like others (e.g., Flavell, 1977), have noted that there are considerable individual differences in the emergence of these skills. The source of this variance has often been attributed to parent-child interactions. This position argues that the give-and-take of these interactions provides the primary stimulation for the development of perspective-taking. The ability to coordinate one's behavior with the inferred behavioral goals of another evolves out of a rich history of social interaction between child and caregiver that provides the child with multiple opportunities to judge, respond to, and assess his success in responding to the perceived mood and intentions of the parent (Marvin, 1972). This argument suggests that emerging perspective-taking facilitates the child's ability to recognize affect and to respond appropriately, but it does not distinguish among the types of perspective-taking that might be useful.

This study provided an initial test of the above hypothesis by examining children's ability to engage in three types of perspective-taking (perceptual, cognitive, and affective) across the ages appropriate for emergence of these skills and determining whether these skills were useful in predicting the child's accuracy in recognizing affective cues in pictures of adults.

Subjects Fifty children ages 5-9 were recruited from a pediatrics clinic at a military medical center. Medical records were screened and only children receiving care for acute minor illnesses were selected for inclusion. There were ten children balanced for sex (five males, five females) in each of five age groups. Military rank and education were not different across age groups suggesting comparable SES ranking.

Procedure Each child was presented with four tasks. An affective judgment task required children to accurately sort photographs of adult facial expressions into one of five affective categories--happy, sad, angry, fearful, and neutral. Standardized photographs from the Facial Atlas (Ekman & Friesen, 1978) were used. The affective perspective-taking task required each child to (a) infer affect from six common situations and (b) infer someone else's affect from four situations in which the child's affect is likely to be different from that person's. The cognitive perspective-taking task was adapted from the Flavell et al. (1968) 7-card task where the child is first presented a cartoon series with a cause-effect progression that the child identifies narratively. The child is presented with the series a second time with panels of the cartoon removed so that the cause-effect relationship is changed and asked to explain the progression as if he were someone who had not seen the first series. The third task, a perceptual perspective-taking task, requires the child to shift his perspective in a spatial plane and infer the visual array perceived by another. Estimates of intelligence were made using the Slossen Intelligence Test (Slossen, 1984). Originally intended as a means of screening children whose intelligence may preclude them from understanding the task, scores from this screening instrument were observed to be consistent with performance of the experimental tasks and were subsequently included in the analysis of these preliminary findings.

## RESULTS

In order to test previous suggestions that perceptual, cognitive and affective perspective-taking skills are distinct dimensions of the construct, Pearson product-movement correlations were generated and demonstrated negligible covariance among the three tasks (Table 1). Neither perceptual nor cognitive perspective-taking correlated with judgment of affect, while affective perspective-taking demonstrated a moderate correlation. Note that these two tasks were very different in demand characteristics with one requiring a visual inspection of facial cues while the other required inferences of feelings based on conceptualization of a brief story suggesting that attribution of affect in others may be a robust, unitary social-cognitive operation.

Casual observations that children scoring well on a measure of general intelligence were also more likely to be successful in the perspective-taking tasks were confirmed. Mental age estimates obtained from the Slossen correlated well with the perspective-taking task scores. It was noted that mental age was relatively less related to affective perspective-taking than the other two tasks. A regression on affective judgment scores suggested that affective perspective-taking and mental age are sources of unique variance in predicting accuracy in the judgment of affect (Table 2). Regression models including perceptual and cognitive perspective-taking indicated that the variance accounted for by these scores was shared with measures of intelligence and affective perspective-taking.

A primary goal of this pilot study was also to validate the experimental tasks for use in later research with special populations. While that was not the major focus of this report, demonstrations of age appropriate changes in judgment and perspective-taking skills provide evidence of construct validity. Tables 3 and 4 summarize these results across age groups. Perceptual and affective perspective-taking accuracy as well as affective judgment were significantly different across the five age groups. While post hoc tests (Duncan's multiple range test) revealed significant differences between specific group means, the more important analyses concerned the expected linear trends observed in the perceptual and affective tasks. The absence of this trend in the cognitive task appears to be an artifact of that particular task where the range of possible scores was more restricted than in the other three tasks.

## DISCUSSION

This study was intended to clarify the relatedness among various dimensions of perspective-taking and to determine whether this construct was related to other sources of variance in social-cognitive development. Results indicated that the three dimensions may be orthogonal aspects of what has generally been described as "perspective-taking." Conceptually, the skills may represent increasingly more complicated inferential operations. That is, perceptual perspective-taking appears to require a mental shift in visual-spatial properties (a relatively concrete demand); cognitive perspective-taking requires a shift in the inference of cause-effect relationships, implying increasing abstraction, and affective perspective-taking requires a shift in both the experience of another to events directly affecting them and the inference of feelings generally associated with that experience (e.g., A friend has a birthday party while you are restricted to your room. How does the friend feel?).

An unexpected finding was the relationship between these skills and intelligence. In the past, studies that have included a measure of intelligence have done so to account for its effect and eliminate individual differences in I.Q. as a source of variance (e.g., Kurdek & Rodgon, 1975). This study suggests that general intelligence is an important covariate that should be included as an important influence in the emergence of social-cognitive skills. Empirically, the finding was all the more remarkable when one considers that the Slossen Intelligence Test is not a particularly robust measure of intelligence. If general intelligence is related to perspective-taking, then it may be important in the future to evaluate the influence of parent-child interactions on intellectual stimulation and social development. Each of the variables has to be examined with respect to parent-child interactions separately but not as related variables.

My own interest in the phenomenon of perspective-taking concerns the influence of parent-child relationships in unique clinical populations. One of particular interest is abusive dyads where the absence of consistent parenting may result in delays in perspective-taking that reduce the child's social competency and impair his ability to recognize and respond to parental demands, thus perpetuating the dysfunctional nature of this interaction.

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TABLE 1  
INTERCORRELATIONS AMONG PERSPECTIVE-TAKING TASKS

<u>TASKS</u>	<u>TASKS</u>			
	<u>PERCEPTUAL</u>	<u>COGNITIVE</u>	<u>AFFECTIVE</u>	
PERCEPTUAL	1.000			
COGNITIVE	.31	1.000		
AFFECTIVE	.15	.278	1.000	

TABLE 2  
REGRESSION MODELS

	<u>PERCEPTUAL</u>	<u>COGNITIVE</u>	<u>AFFECTIVE</u>
AFFECTIVE JUDGEMENT	.255	.292	.473**
SLOSSON MENTAL AGE	.514**	.459**	.380*

\*  $p < .05$   
 \*\*  $p < .001$

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$$Y (\text{Judgement}) = .362 (\text{Affective Perspective-Taking}) + .290 (\text{MA}) + 2.40$$

Multiple  $R = .544$   
 $R^2 = .300$   
 $SE = 3.108$   
 $F (2,48) = 10.07 \quad p < .001$

TABLE 3  
AGE DIFFERENCES IN PERSPECTIVE-TAKING SKILLS

<u>TASK</u>	<u>AGE (year group)</u>				
	5	6	7	8	9
Perceptual Perspective-Taking**	6.10 (1.45)	6.82 (1.08)	6.60 (1.51)	7.80 (0.42)	7.30 (0.48)
Cognitive Perspective-Taking	1.10 (1.29)	2.00 (1.67)	2.20 (1.55)	2.20 (1.14)	2.80 (1.70)
Affective Perspective-Taking*	5.90 (1.79)	7.00 (2.32)	8.00 (1.56)	8.00 (1.94)	8.20 (1.93)

\*  $p < .05$

\*\*  $p < .001$

TABLE 4  
AGE DIFFERENCES IN AFFECTIVE JUDGEMENT

<u>TASK</u>	<u>AGE (year group)</u>				
	5	6	7	8	9
JUDGEMENT**	6.80 (4.13)	9.45 (3.83)	10.80 (3.46)	10.80 (2.78)	11.50 (2.12)

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\*\*  $p < .001$



POST DOCTORAL FELLOWSHIP  
IN CHILD-CLINICAL PSYCHOLOGY

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The U.S. Army Post-doctoral Fellowship in Child Clinical Psychology was established in 1980 and is an intensive 12-month training program with both an interdisciplinary and individualized orientation. It is offered at Madigan Army Medical Center beginning each July. The fellowship is open to active duty psychologists who have completed their Ph.D.'s, a clinical internship, and at least one utilization tour.

Core skills and the interest of the fellow are assessed at the early phase of the fellowship and the individualized program is established on a contractual basis between the fellow and the director. Major areas of focus are assessment, therapy, consultation, research, training/supervision, and administrative skills. The level of expertise desired by the end of the 1-year program is not only to function on a high professional level, but also be able to train and supervise others in child clinical psychology. Additionally, each fellow is to choose one area of sub-specialization and develop a publishable/presentable project. Areas of knowledge to be acquired are thorough familiarity with child development and childhood psychopathology; expertise in evaluation, to include psychometrics, family interview, neuropsychology and effects of organic conditions; skill in various therapeutic modalities to include individual therapy with children from preschool to adolescent age, family therapy, and group therapy; and consultation to schools, hospitals and community agencies.

The academic and practical aspects of the fellowship are coordinated by the Psychology Service with the cooperation of numerous other programs and agencies. Considerable involvement with the Child Guidance Service, Department of Psychiatry, Pediatric Child-Development Fellowship, Pediatric Neurology, Dysmorphology, Genetics and Adolescent Service, Department of Pediatrics, Social Work Service, Family Practice Clinic, Occupational Therapy, Speech Therapy and Neurology Service is augmented by coordination with civilian agencies, programs and universities and by the availability of outside consultants. Combining comprehensive evaluation and treatment of physical, developmental, emotional, behavioral and social problems of children is an asset unique to the Army Medical Center system and adds greatly to the effectiveness of the fellowship.

The graduates of the fellowship have distinguished themselves in important leadership, training and clinical assignments. Of the nine fellows enrolled in the program, eight are still on active duty in the military, and one works for the Army as a civilian child psychologist.

## PRACTICAL AUTOMATION APPLICATIONS

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**PURPOSE:** To informally provide practical tips on automation applications of special interest to Army mental health practitioners. This presentation focuses on database/patient management systems and electronic communication. It will not address research, clinical, and clerical applications.

**BACKGROUND:** The Army Social Work Automation Committee was formed in response to a grassroots demand among Army social workers for a central source of information about uses of automation in Army social work, and for standardization of automation programs. In addition to clinical software, two areas received particular attention: (1) Databases generated great interest in the social work population, but were characterized by a proliferation of unconnected and poorly documented local programs. (2) Social workers tended to be unaware of the potential advantages and sources of electronic communication.

### DATABASES AND PATIENT/RECORDS MANAGEMENT SYSTEMS

#### Information which can be filed on a database

1. Identifying data (Name, SSN, unit, etc.)
2. Demographics (Gender, marital status, rank, etc.)
3. Items of special interest--to assess needs or justify programs
  - Suicide attempts/ideation
  - Referral source
  - Drug and alcohol involvement
  - Marital problems
4. Clinical information (diagnosis, outcome)
5. Administrative data
  - Date consults answered
  - Open/closed status
  - Primary counselor

#### Uses for a Database

1. Needs Assessment - Define population served
2. Research
3. Marketing - Justify what you do
  - Help your superiors to understand what services you provide
4. Command Consultation
  - Provide unit commanders with a profile of soldiers from their unit who seek assistance
  - Identify high risk units
5. Management
  - Provide counselors (and their supervisors) with periodic updates of caseload status
  - Identify cases which should be closed or acted upon
  - Identify unanswered consults
  - Provide automated formats for recurring reports
  - Track records

### Limitations of Databases

1. Time consuming data input
2. Expensive hardware
3. Takes computer time away from other uses  
(your administrative staff will want a useful system "up" all the time)
4. Training required
5. Confidentiality Requirements. You must be VERY careful to safeguard your data. Contact your local Automation Management Office (AMO) for details.

### Resources

Peggy Davis at Community Mental Health, Madigan Army Medical Center (with a little help from this author) has collected CMHS database systems from CMHSs across CONUS. She has combined the best features of these programs into a comprehensive, user-friendly, well-documented program that has been approved for export to other facilities. This program has been on-line at Fort Lewis since January 1988 with enthusiastic staff response. It has been adopted by other CMHSs. To inquire about this program contact CPT Mike Russell or Peggy Davis at Autovon 357-7201, or Peggy's home (206) 964-2084. She is developing a system to input data through patient-completed mark-sense forms which can be read through the same scanners we use to score clinical tests.

## ELECTRONIC COMMUNICATIONS

### Capabilities

1. Electronic Mail. A quick way to send a message to a colleague at your convenience without (1) finding an Autovon line, disturbing him/her with a patient, worrying about time zones; or (2) finding pen, paper, stamps, postbox, and then waiting weeks for a reply. Many electronic mail systems allow you to talk on-line to others who are on the systems at the same time.
2. Bulletin Boards. A way to quickly post messages for a group of people. For example: Last call for papers for a conference. requests for information about a certain issue, information about an innovative program you think others might like to emulate.
3. Teleconferencing. You can post an item for discussion, and others will respond to the initial item and subsequent responses.

### Limitations

1. Equipment. Yes, you will need a modem. You should be able to buy an adequate modem with software for about \$60. Many people in the service are also using PROCOMM, a highly rated shareware. It may be difficult to make a model work with antiquated or complex Army phone lines. Talk to your AMO--he's figured out how to make it work in his office--or install a modem on your home computer.
2. Knowledge. Documentation will come with your software and with the instructions from the E-mail source, but you may still have to find a buddy who uses the system to talk you through. If you don't know anyone on the system, who are you going to talk to anyhow?

### Sources

1. Many hospitals now have internal E-Mail.
2. The DDN Network and OPTIMIS. These are interconnected 000 and Army systems that provide electronic mail. You can send messages to a preset distribution list. Ask your AMO or a current user (like Mike Russell at Fort Lewis) how to set up an account.
3. HSC E-Mail. Electronic mail for users throughout Health Services Command. Ask your local AMO about an account.
4. U.S. Army Forum Network. These DA-sponsored telenets provide E-Mail, bulletin board, and teleconferencing capabilities for discussion of specific topic areas. The area of most interest to mental health practitioners is EXCELNET, the topic is Leadership. Net Manager is LTC Bill Knowlton, AV 227-6961.

Most of these sources have Autovon numbers and also access via a civilian network like Telenet. Some have 800-numbers.

CONCLUSION: Automation has a great potential for assisting mental health practitioners. Widespread adoption is inevitable. Learn to use automation capabilities now and you will have a headstart on tomorrow.

Questions, Comments, or Wonderful Resources I Forgot to Mention? Please Contact:

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A CENTRALIZED APPROACH TO COUNSELING SERVICES  
CAMP ZAMA, JAPAN

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This paper details how the concept of a consolidated counseling service agency was implemented at the 17th Area Support Group, Camp Zama, United States Army Japan. The purpose of the consolidation was to efficiently and effectively help individuals in need. The action co-located the regulatory programs of Mental Health, Alcohol and Drug Abuse Prevention and Control Program, Family Advocacy, and Financial Counseling. While such a relocation pooled the communities' counseling resources into one primary area and dispensed with the inconvenience of referring clients to various locations for counseling, it created supervisory and administrative problems. Since the staff originated from different organizational elements, there were two supervisory chains. Administrative support came from three sources, and there were three major programs to manage and four regulatory directives to administer. Consequently, this culminated in a cumbersome supervisory and administrative problem. This paper explains how these problems can be effectively managed.

Centralized counseling services at 17th Area Support Group (ASG), Camp Zama, United States Army, Japan, was a dream conceptualized by LTG Charles W. Dyke, Commander, USARJ, to best assist soldiers, civilians, and their families in the community. He believed that community members who need counseling services do not have neatly packaged problems and deserve services that are convenient and readily available. To this end, he ordered that a "one stop" counseling center be developed to address their needs and appointed me to direct it. The purpose of the Center was to have, in a single location, all the assistance that a soldier, civilian or family member might need. All sides of the problem could be examined and solved much more quickly if clients were not forced to travel to various locations for help. Additionally, the Center was envisioned to help make available counseling services more effective. By working side-by-side every day, LTG Dyke believed a synergistic effect of association would increase productivity. Consequently, he challenged me, along with the Commanders of 17th ASG and USAMEDDAC-Japan, to hammer out a plan that would meet the needs of the community.

His vision about combining services into a "one stop" counseling center was not a new concept. He described a similar program which was successfully implemented in 3rd Infantry Division, Schweinfurt, Germany, where he was Assistant Division Commander in 1978. Similar programs had been implemented in Fort Polk, Louisiana; Fort Lewis, Washington; and Fort Campbell, Kentucky, in the mid-70's (Futterer, 1974) but no Army program was currently established as of 1986.

The Marines, however, at the Marine Corps Air Station, Iwakuni (1986) had established a "one stop" operation in their Family Services Center. Through their operation they were able to handle mental health, family advocacy,

visas/passports, and other people programs. With convenience to the Marine in mind, they designed a "one stop" operation which met their patrons' needs. This paper describes our current program and points out lessons learned in establishing it. It is a counseling concept which has been forwarded to BG Thomas G. Rhame, Commander, United States Army Community and Family Support, for implementation as a Model Installation Program (MIP) at Camp Zama with implications for adoption as an army-wide program.

Armed with the Iwakuni model and the unique needs of the community, the Camp Zama model was formed to efficiently and effectively assist those persons who need help. See Figure 1.

We had four major objectives: First, we wanted to develop a system that would centralize screening, referral, and technical supervision. Second we wanted to identify and define counseling services at Camp Zama. Third, we organized prevention and treatment programs to fit our community needs. Fourth, our objective was to develop liaison relationships between all human resource units. See Figure 2.

Such objectives strongly enhanced our ability to serve clients. Advantages included the ability to (a) quickly respond to counseling needs; (b) provide command and control to insure technical supervision; (c) Provide a forum wherein all counseling activities are identified, defined and effectively utilized; (d) minimize duplication of counseling activities; and (e) provide a system for developing proactive preventive programs. See Figure 3.

However, the consolidation did create two major disadvantages, in that all units had to be relocated and administrative management consolidated to form the basis for the center's operation. Throughout the first four months of operation, turf issues surfaced regarding who should manage such a unique center. At issue was what administrative unit was best equipped to handle the operation and whether a line or medical service corps officer should manage it. Detractors felt that, I, as a clinician, should concentrate on treating clients rather than administering programs that required knowledge of TDAs, budgets, and ARs. Proponents felt that the primary focus of all these programs was on treatment and that a clinician head would be in the best position to provide leadership to both technical and administrative matters. What resulted was a compromise. See Figure 4.

Four major units were included in the Community Counseling Center (CCC). Psychology and Social Work Services were combined to form the Mental Health Service from the Medical Department Activity, Japan (USAMEDDAC-J) and three Units--The Drug and Alcohol Program, the Family Advocacy Program, and the Financial Counseling Program from the Directorate of Personnel and Community Activity (DPCA)--comprised the CCC programs. See Figure 5.

Within the installation structure, the CCC became a shared responsibility of DPCA and USAMEDDAC-J. See Figure 6.

As you can see, the installation commander, COL Roy Berry, provides overall guidance to the Director of Health Services (Dual hatted as the Deputy Commander for Professional Services in the USAMEDDAC-J) and Director, DPCA to insure smooth operation of the center. This configuration insured that technical supervision is provided by the USAMEDDAC-J and administrative support maintained through DPCA. See Figure 7.

Liaison relationships were created with the following organizations: Legal Assistance, the American Red Cross, Religious Counseling and Educational Counseling. On a biweekly basis we invite these units to attend our weekly staff meetings where we share information about projected or on-going projects. Such sharing and frequent meetings has made us more aware of each others unique concerns and thereby enhanced our ability to serve clients. See Figure 8.

Program managers from existing units were retained to manage their programs IAW existing ARs and budgetary constraints. We found that by organizing in this manner most management and service delivery issues could be effectively handled. See Figure 9.

As a result, during the first year of operation, improvements have been apparent. Case staffings occur daily. Screenings improved and resulted in better assessment of needs. Cross referrals were improved due to the co-location of the professional staff. The multidimensional needs of clients have been met. Administrative work to coordinate services has decreased, enabling the staff to concentrate on treatment services needed by clients. All service providers are credentialed through the USAMEDDAC-J to ensure quality of care, and internal controls have been developed to insure that resources are available. See Figure 10.

Nonetheless, with all the improvements of services, the center is experiencing supervisory and administrative problems. Since the staff originated from different organizational elements (TDAs), manpower survey teams evaluate them as separate unit staffs rather than a consolidated team. Administrative support was promised from three sources, but in reality only one source has been provided. There are four budgets to program, three major programs to manage, and four regulatory directives to administer. This has culminated in a cumbersome supervisory and administrative problem. See Figure 11.

To solve this problem, we plan to reorganize and combine the administrative support personnel, combine the four budgets into one, restructure the chain of command and combine the three programs and four regulations into one, respectfully. Such a move will result in the CCC having a truly consolidated center. See Figure 12.

Program managers will retain their authority and responsibility for managing their areas of expertise, and clinicians will be less tied to providing speciality care. In other words, patients will be evaluated as multidimensional beings whose problems are not so neatly packaged.

When regulatory directives are combined for all people programs, it will result in more efficient usage of resources. Now our agency is required to keep multiple case files on the same individual for different problems. Combining the regulations will conveniently promote a holistic concept toward people problems and further encourage centralization of counseling resources.

Additionally, since 1 January 1986 all personnel/family programs now fall under DCSPER at MACOM/DA levels, consolidating under a CCC in DPCA could result in a reduction of cost for publication and comprehensive updates. That is what the team concept is all about and when implemented will lead to fewer bureaucratic obstacles.

### LESSONS LEARNED

Although this program was mandated by the Commanding General, developing a centralized multipurpose counseling center has taught me a number of lessons. First, regardless of the mandate from above the behavioral scientist in charge of this kind of program needs to have political savvy. That is, that individual needs to maintain close and personal contact with the key players, such as the Installation and MEDDAC commanders and devise ways of selling the program. One has to understand how commanders think and communicate information in their language. Most commanders like to be kept well informed of things that directly affect their missions, and it behooves one to pay keen attention to what they emphasize. Equally important is how one approaches program managers who are affected by a decision to consolidate. These program managers are accustomed to managing their programs independently and will question and resist changing. Where possible, every effort must be made to allow for their input. Nonetheless one must realize that regardless of one's efforts to accommodate them, a small percentage will continue to resist change and must not be allowed to undermine the program.

Second, the Director of such a program should have technical as well as administrative control of the program. There is no situation more frustrating than having all the responsibilities of a program and no authority to control it. In other words, the Director should have control of and be responsible for everything that takes place in the center. Most administrative problems managing the CCC have occurred because of this issue. It is difficult to fix responsibility for managing staff members and programs when they serve two masters.

Third, because of budgetary constraints and emphasis on quality of life and family issues for soldiers, it is probably likely that many of you will serve in similar positions in the near future. Consequently, preparation for heading or working on such a staff is essential. Preparation for serving as head of a CCC will require knowledge of regulatory people/family programs; the resource management system; and familiarity with managing both military and civilian personnel. For those that head or work in a CCC, interest in applying a systems approach to people problems as well as staff officer skills is extremely desirable. Such an individual is in a favorable position to impact the community in a positive manner. Credibility seems to come to those professionals who assess and understand commanders' goals/needs and systematically show their impact on the community. Frequent exposure and interaction with community leaders is important. Therefore oral and written communicating skills will be a real asset. Finally, every behavioral scientist should have an equal opportunity to manage this program. Few behavioral scientists should be excluded from consideration, and all types--clinical psychologists, psychiatrists, and social workers--should be given an opportunity to manage. However, an active duty officer of field grade rank will have greater credibility and success with command. Senior active duty officers appear to have access to command more readily than their company or civilian counterparts and thus will have an easier time selling the program.



## SUMMARY

Centralized counseling services is a concept that has been successfully implemented at 17th ASG, Camp Zama, Japan. Although there are some supervisory and administrative problems to overcome, they can be effectively managed.

## REFERENCES

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# **PURPOSE**

**THE PURPOSE OF THE CCC IS TO  
EFFICIENTLY AND EFFECTIVELY ASSIST  
THOSE PERSONS WHO NEED IT**

Figure 1. Community Counseling Center Purpose

## **OBJECTIVES**

- **CENTRALIZED SCREENING, REFERRAL AND TECHNICAL SUPERVISION.**
- **ID AND DEFINE COUNSELING SERVICES.**
- **ORGANIZE PREVENTION AND TREATMENT PROGRAMS.**
- **DEVELOP LIAISON RELATIONSHIPS BETWEEN ALL HUMAN RESOURCE UNITS.**

Figure 2. Community Counseling Center Objectives

## **ADVANTAGES**

- **QUICKLY RESPOND TO COUNSELING NEEDS.**
- **PROVIDE COMMAND AND CONTROL TO INSURE TECHNICAL SUPERVISION.**
- **PROVIDE FORUM WHEREIN ALL COUNSELING ACTIVITIES ARE IDENTIFIED, DEFINED AND EFFECTIVELY UTILIZED.**
- **MINIMIZE DUPLICATION OF COUNSELING ACTIVITIES.**
- **PROVIDE SYSTEM FOR DEVELOPING PROACTIVE PREVENTIVE PROGRAMS.**

Figure 3. Advantages of establishing a centralized center.

## **DISADVANTAGES**

- REQUIRES RELOCATION OF  
AFFECTED UNITS**
- ADMINISTRATIVE CONSOLIDATION  
OF TDA'S, BUDGETS AND AR'S**

Figure 4. Disadvantages of establishing a consolidated center.

## **ORGANIZATIONS INCLUDED**

- |                        |           |
|------------------------|-----------|
| ● MENTAL HEALTH        | MEDDAC--J |
| ● DRUG AND ALCOHOL     | DPCA      |
| ● FAMILY ADVOCACY      | DPCA      |
| ● FINANCIAL COUNSELING | DPCA      |

Figure 5. Community Counseling Center Organization.

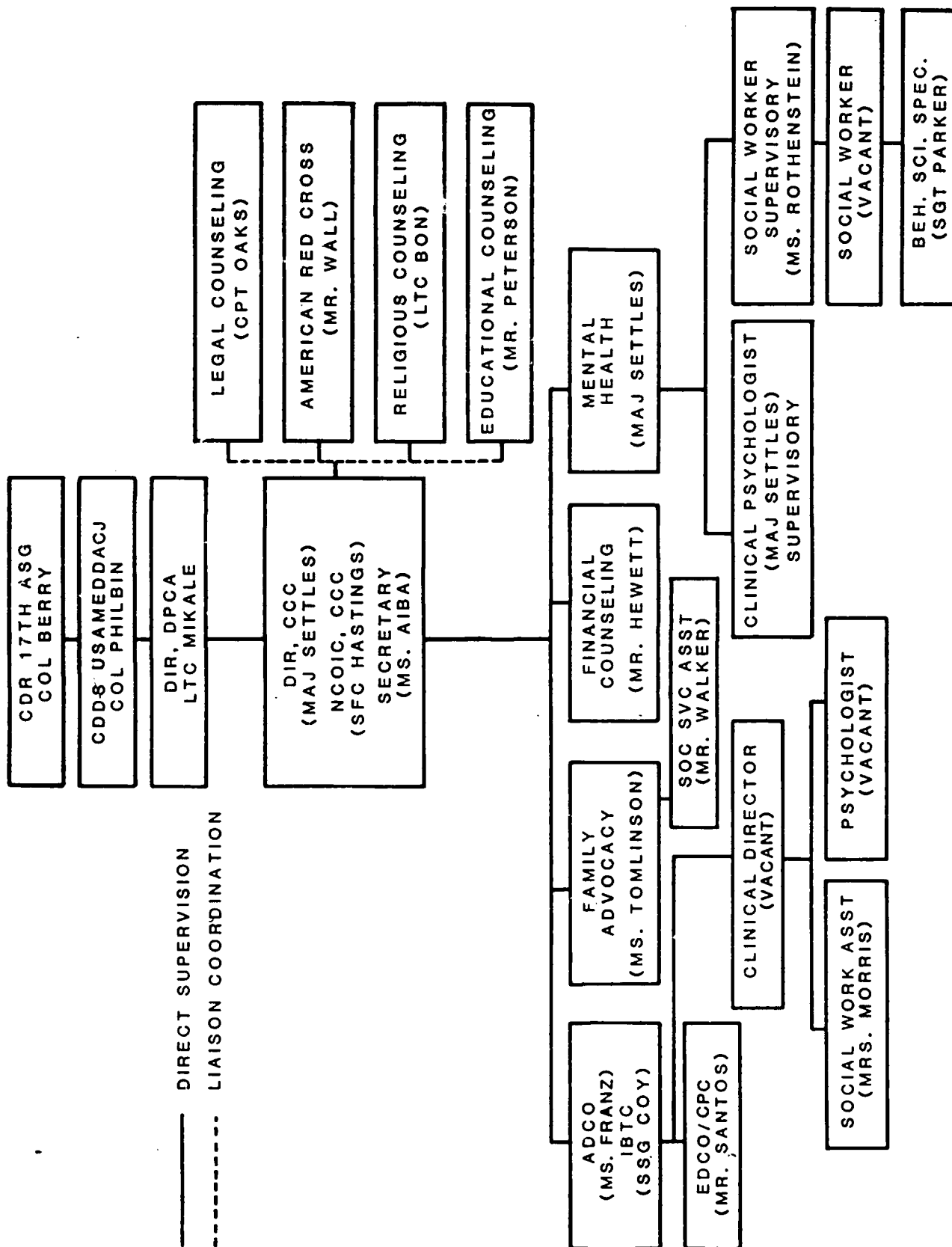


Figure 6. Organizational Chart for the Community Counseling Center

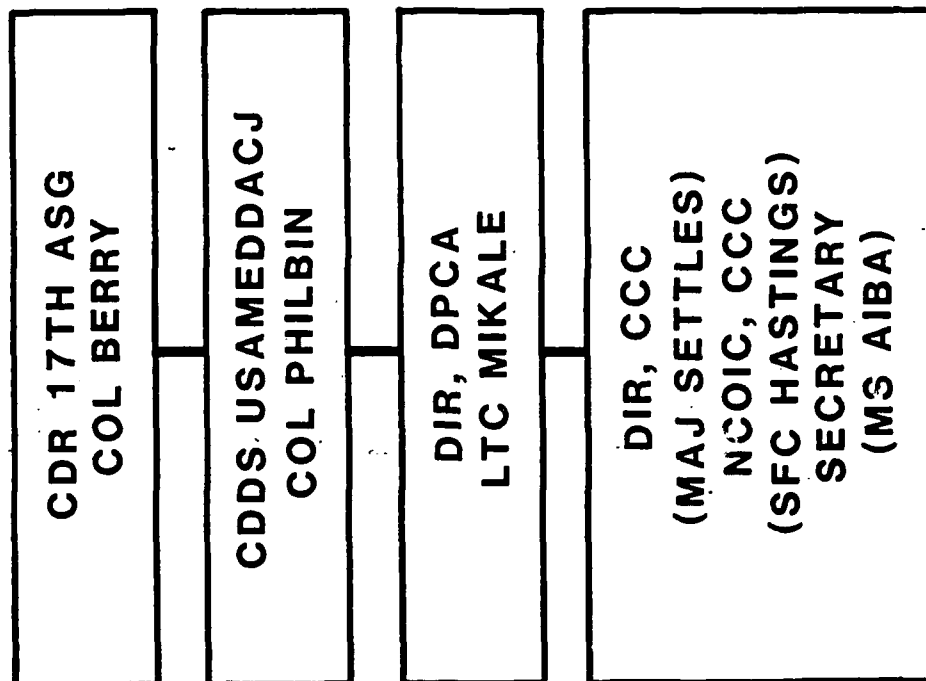


Figure 7. Chain of Command for the Community Counseling Center.



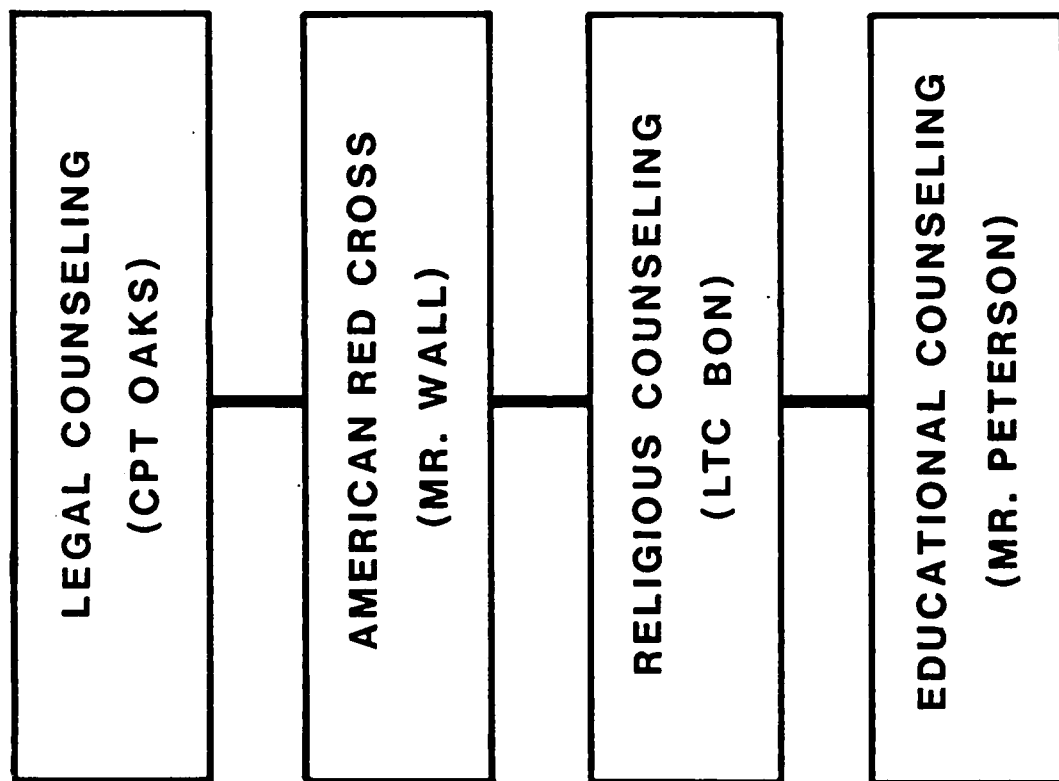


Figure 8. Organizations with liaison relationship to the Community Counseling Center.

# PROGRAM MANAGER

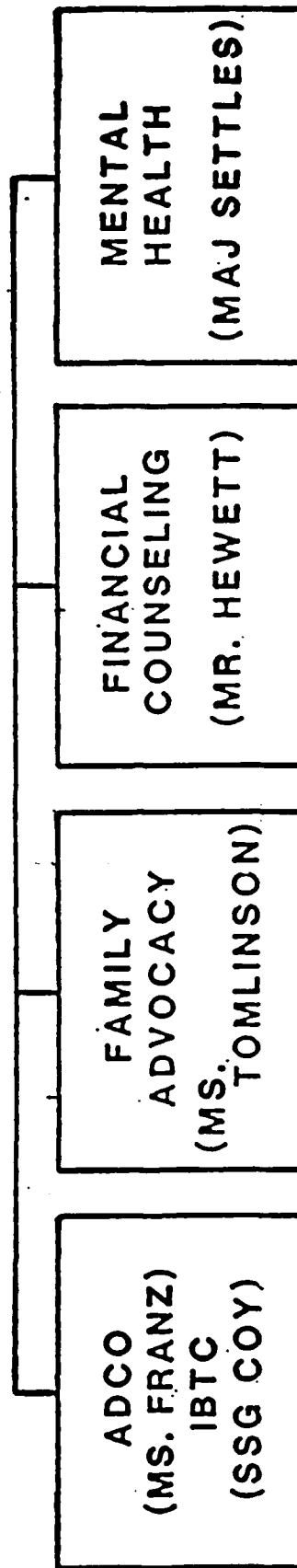


Figure 9. Program managers at the Community Counseling Center.

## **RESULTS OF CONSOLIDATION**

- CASE STAFFING DAILY**
- SCREENING IMPROVED**
- CROSS REFERRALS ENHANCED**
- MULTI-DIMENSIONAL CLIENT NEEDS MET**
- DECREASED COORDINATION OF SERVICES**
- QUALITY ASSURANCE/INTERNAL CONTROL  
PROGRAMS ESTABLISHED**

Figure 10. Results of Community Counseling Center consolidation.

# CCC SUPERVISORY/ADMINISTRATIVE STRUCTURE

<u>PROGRAM</u>	BEFORE			
	BUDGET CONTROL	REGULATORY DIRECTIVE	ADMIN SPT	TDA
D/A	DPCA	AR600-85	DPCA	DPCA
FA	DPCA(ACS)	AR608-18	DPCA(ACS)	DPCA
FC	DPCA(ACS)	AR608-1	DPCA(ACS)	DPCA
MH	MEDDAC	AR40-66 AR40-216 AR40-400	MEDDAC	MEDDAC

Figure 11. Supervisory/administrative structure prior to the model installation revision.

# CCC SUPERVISORY/ADMINISTRATIVE STRUCTURE

<u>PROGRAM</u>	AFTER			
	BUDGET CONTROL	REGULATORY DIRECTIVE	ADMIN SPT	TDA
CCC	DPCA	REVISED TO FIT LOCAL NEEDS	DPCA	DPCA

Figure 12. Proposed supervisory/administrative structure for the Community Counseling Center.

## AVIATION MEDICINE CONSULTATION: AN EXPANDING ROLE FOR AMEDD PSYCHOLOGISTS

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As more aviation medicine physicians become familiar with the applications of clinical psychology to aviation medicine, the need for competent clinical and consultative services will increase. Clinical psychologists assigned to stations with an operational aviation medicine program can reasonably expect to become more involved with this specialty area of consultation. As of yet, no adequate program within the AMEDD exists for preparing clinical psychologists for their roles as consultants in aviation medicine. The purpose of this paper is to detail the needs and roles for clinical psychologists in aviation medicine, and to outline clinical and practical guidelines for performing aviation medicine consultation.

Aviation medicine has emerged as a new frontier for expanding the clinical and consultative roles of AMEDD psychologists. Over the past several years, a small contingent of clinical psychologists within the three major services has begun to provide psychological services exclusively tailored to the needs of the aviation population. In so doing, they have fashioned the beginnings of a subspecialty area of military psychology known as aviation clinical psychology.

The need for specialized psychological services in aviation medicine stems from two related but distinctly different origins: human factors in aviation safety and health maintenance of aircrew. Human factors in aviation involve the interface between man and machine at various levels including the physical hardware, training procedures, operational environment considerations (e.g., noise, vibration), and social and psychological issues (Sheridan & Young, 1985). Economics, training, and task and system design typically fall under the purview of human factors engineering psychologists. This has resulted in some neglect of the whole of the so called "human needs" (Moore, 1977) or individual psychological issues in the human factors approach.

It has been well established that human factors contribute inordinately to the causes of aircraft accidents. In fact, the U.S. Army Safety Center has determined that greater than 70% of the rotary-wing Army aircraft accidents from 1982-1987 involved human error. Greater than half of the human factors accidents involved such individual psychological issues as inattention, overconfidence, complacency, drug/alcohol use, and fatigue, factors which the Safety Center has labeled "self-generated." Such psychological factors tend to be extremely refractory to change by easily administered system-wide countermeasures.

The U.S. Naval Safety Center has demonstrated direct and significant relationships between psychological factors and Class A human error naval mishaps over a four year period (1978-1982). Naval aviators involved in human error accidents were significantly more likely than those aviators whose accidents were attributed to other causes to have manifested behaviors prior to their accidents suggestive of poor stress-coping and psychological distress

(Alkov, Gaynor, & Borowsky, 1985). Such behaviors included difficulties with supervisors and peers, problems in interpersonal/intimate relationships, change in personality, and increased use of alcohol. Other personality issues such as immaturity, poor sense of personal limitations and lack of professionalism were also more characteristic among aviators involved in human error accidents.

The role of individual psychological factors in the cause of human error aviation accidents clearly indicates the need for clinical psychologists with specialized training and skills to tailor psychological services and interventions aimed at reducing the adverse impact of these factors on aviation safety. Given the geometrically increasing costs associated with human error accidents involving technologically sophisticated aircraft, such intervention appears timely and potentially extremely cost-effective.

Although human error accident prevention provides a dramatic and quantifiable avenue for documenting the need for psychologists in aviation medicine, the role of psychologists in the general health maintenance of aircrew cannot be ignored. Aviators are selected for their physical health and must annually meet stringent physical standards. The aviation environment is a physically and psychologically hostile environment and the aviator's lifestyle is often inherently stressful. Such an environment over time can result in reduced productivity, high rates of "burnout," resulting in decreased job performance, and the loss of experienced aviators through resignation or disqualifying stress-related diseases (Ursano, 1980). The direct and indirect costs in terms of dollars can be staggering, but most problematic is the cost in terms of reduced operational fitness and force readiness.

Ultimately, the psychologist's role in the health maintenance of aircrew includes the provision of traditional psychological services in the diagnosis and treatment of psychiatric/emotional conditions. However, central to preserving and lengthening the productive life and well-being of the pilot is the development of proactive behavioral medicine programs oriented to disease prevention, the promotion of physical and psychological wellness, improved morale, reduction of job stress and burnout, and overall improvement in the aircrew member's quality of life. These needs create an even greater demand for aeromedically trained clinical psychologists.

The value of psychologists in aviation medicine has long been recognized by the U.S. Navy. Experimental psychologists are routinely trained through the Naval Flight Surgeon Program to provide services in personnel selection and training, accident investigation and prevention, and performance measurement (Caudill, 1985). Clinical psychologists have traditionally not been a part of this program although the need for aviation clinical psychologists in the Navy has been clearly established (Parker, 1987). Only the U.S. Air Force has taken the lead in the aeromedical training of clinical psychologists with the establishment of a seven week course which runs in conjunction with the already established Air Force Flight Surgeon Course. As of yet, the U.S. Army has no mechanism for providing formal aeromedical training for clinical psychologists, an issue which will be addressed in more detail later in this paper.

## THE ROLE OF THE PSYCHOLOGIST IN AVIATION MEDICINE CONSULTATION

The overall goal of psychological consultation in aviation medicine is to facilitate the aircrew member's adaptation to the unique demands of the aviation environment. Toward this end, psychologists function in several capacities: as consultants to the flight surgeon on mental health referrals and on preventive programs in behavioral medicine; as consultants to the aviation commander on psychosocial issues within the unit/community; and as consultants to accident investigation or flight evaluation boards on psychological factors in aviation safety.

The primary role in which the clinical psychologist is likely to find him or herself in an operational setting is as a consultant to the flight surgeon. In this role, the primary function of the psychologist is to provide clinical consultation regarding the assessment, treatment, and disposition of aviation personnel upon referral from the aviation medicine clinic. This function is similar to consultation services for other medical clinics and emphasizes the clinician's traditional psychodiagnostic and therapeutic skills. The typical evaluation framework (clinical interview, psychological testing as necessary, formulation/diagnosis, and treatment recommendation to the patient and referral source) applies equally well to this function. However, in aviation medicine consultation, there are special clinical and practical considerations and conditions which render the process quite different than an evaluation for any other medical service (Black, 1983; O'Connor, 1983).

## CLINICAL CONSIDERATIONS IN AVIATION MEDICINE CONSULTATION

Unique considerations in aviation medicine consultation can be found at every level of the evaluation process including the nature of the referral, the evaluation techniques, and the psychological disposition of the aircrew member. Of the potential myriad issues at each level, this paper will address only the most common as they impact upon the evaluation of pilots. Note that with few exceptions, these issues will also apply to other flight status personnel (e.g., air traffic controllers).

## AVIATION MEDICINE REFERRALS

Although there may be those cases in which an aviator is referred to a psychologist for detection of frank psychopathologic conditions, stringent selection criteria and above average physical and mental health make it much more likely that referrals will involve difficulty coping with situational psychosocial problems. Studies of the aviator personality generally find pilots to be high stress-copers with traits suggesting a structured action-oriented approach to problem-solving under stress (Fine & Hartmann, 1968; Novello & Youssef, 1974). Although this style is very adaptive in the aviation environment, it may lead to difficulties with acting-out behavior for a pilot who is unable to cope with excessive levels of stress. This may be manifested in clinical referrals for alcohol abuse, domestic violence, and impulsivity.

In addition, the typical pilot personality has been found to be less well oriented to inner life and coping with affect. As such, it is not unusual for aviators to manifest somatic symptoms suggesting anxiety and depression in



response to emotionally charged situations such as the death of a comrade or loved one. For a more detailed discussion of clinical conditions in aircrew, the interested reader should consult Jones (1985). However, this presentation would be incomplete without reference to two potential issues for psychological referral which are unique to aviation medicine consultation: fear of flying and adaptability for military aeronautics.

Fear of flying has historically referred to a broad range of symptoms in aircrew and is frequently misapplied by medical personnel less well acquainted with the concept. An excellent historical review of this condition has been given by Strongin (1987). Strongin suggests that the term has been used to refer to three classes of disorders: symptoms stemming from a pre-existing disorder; situational stress or exhaustion; and a change in life circumstances which have temporarily altered the defensive structure and motivation of the individual to fly.

There is little doubt that flying provokes intense anxiety and reality-based fears. Adequately adapted aviators have evolved mechanisms for channeling these fears and anxieties in a manner which allows them to carry on their duties in a task-oriented way. When these mechanisms break down, aviators may be unable to cope with the anxieties and fears generated. Anxiety may then be manifested in many ways which has no doubt led to misapplication of the term "fear of flying" to many clinical conditions.

Perhaps the simplest and most straightforward manner to employ this description (it is not a diagnosis) is to restrict its use to conscious manifestations of reluctance to fly. Here the discrimination between anxiety and fear is primary: fear is a conscious experience directed toward a specific object; whereas anxiety has its roots in the unconscious and its object may be symbolic. Thus, the pilot referred for evaluation because of conscious fear and refusal to fly under night vision goggles following a midair collision which claimed the lives of several members of his unit, manifests "fear of flying." On the other hand, a pilot referred for panic attacks with onset following an accident in which his best friend was killed, has a psychiatric condition in which the central conflict may or may not involve flying and is most likely not conscious. It should be noted that other authors have proposed the term "flying decompensation syndrome" to refer to the non-psychopathological disruption of adaptation to flying (Llosa-Rojas, 1974).

As a general guideline, a pilot referred for rule out of "fear of flying" must be evaluated for the presence of any psychiatric/psychological condition and if one exists, an appropriate diagnosis should be established and treatment initiated. If no diagnosis is apparent, the refusal to fly becomes an administrative issue and not a medical problem. The final disposition then rests with a flight evaluation board whose function will be to determine that individual's suitability for continued aviation service. Nevertheless, motivated pilots who manifest fear of flying can be successfully returned to full flying duty with appropriate psychological intervention and this should always be offered (Aitken, Daly, Lister, & O'Connor, 1977; Carr, 1978).

An additional type of referral specific to aviation medicine consultation involves the assessment of an individual's adaptability for aviation service. Evaluation for suitability as a military aviator requires a thorough assessment of the psychological motivations behind the desire to fly. In the U.S. Army and the U.S. Air Force, this has been called the Adaptability Rating for

Military Aeronautics (ARMA), and it is usually assessed by the flight surgeon as part of the physical exam. Issues of adaptability are typically addressed in an initial exam prior to entering aviation service but may surface at any time during an aviator's career and require reassessment. Clearly, this is the trickiest part of the flight physical and one with which the flight surgeon may feel least confident. Thus, it is likely that aviation medicine referrals will frequently concern this issue, especially as the flight surgeon becomes aware of the interest and availability of the clinical psychologist in providing this service as well as the wealth of data the psychologist can potentially generate about an individual's underlying motivations and needs from psychological testing.

The ARMA evaluation conducted by a psychologist is not unlike the screening conducted for entry into any other rigorous military occupation such as special operations or drill instructor training. A thorough review of history and psychological testing is mandatory. Clearly, the presence of an overt psychopathological condition is grounds for a finding of "ARMA-unsat," but these conditions will most likely be disqualifying for aviation service in other areas of the medical regulations for flight status (Chapter 4, AR 40-501). The specific reasons for a determination of unsatisfactory adaptability for military aeronautics are outlined in Appendix A.

Perhaps the most difficult aspect of the ARMA evaluation is the assessment of the motivation to fly. Love of flying, money, prestige, and career enhancement may all be reasonable motivations. Other motivations may be less conscious and reflect more unrealistic desires based upon the individual's true ability, or can reflect unconscious desires to work out difficulties in self-esteem by choosing a demanding occupation. Many of these issues have been discussed in a now classic publication by Sarnoff (1957), and in more recent discussions by Morgenstern (1967), Jones (1985), and Adams and Jones (1987).

Certainly, direct examination of flying interest is necessary in ARMA evaluations, but assessment of the motivation to fly cannot be approached in a textbook fashion with such direct questions as "Why do you want to fly?" Rather, ARMA evaluations require considerable skill on the part of the examiner to uncover areas from the patient's history which suggest adaptation problems in the past or indicate future difficulty fitting in to the aviation environment. As Jones (1985) points out, examination of past interests and achievements is a crucial aspect of the evaluation. It is unlikely that a candidate who has never completed demanding endeavors in the past will be successful in flight school. Also, it is unlikely that a candidate who has had serious problems conforming his or her behavior to the rules of society (speeding tickets, truancy, impulsivity, etc.) in the past will fly in accordance with the rules and regulations guiding safe flight.

It is imperative that the psychologist performing aviation medicine consultations involving ARMA issues become thoroughly familiar with the personalities and backgrounds of typically successful aviators. Such knowledge can be gained from the works referenced in this paper, but there is no substitution for the knowledge acquired by interacting with the members of the aviation unit to which one is consulting. Finally, as Adams and Jones (1987) suggest, countertransferential feelings are the best available indices of healthy motivation to fly and can be addressed by simply asking oneself, "Would I want to fly with this individual?"

## EVALUATION GUIDELINES

Regardless of the specific referral issue, there are unique characteristics of the aviator and aviation medicine consultation which may require the psychologist to adjust his or her typical consultation approach. First and foremost, with very few exceptions, aviation medicine evaluations should not be scheduled as routine consultations because of the consideration to aviation safety. Thus, all evaluations should be regarded as "today" consults unless specifically deemed otherwise by the flight surgeon. Without exception, the flight surgeon should be contacted prior to scheduling any consultation.

Secondly, whether the patient is self-referred or referred by the local flight surgeon, the examiner is likely to encounter an extremely guarded individual who has mastered the art of projecting a favorable impression. Thus, the patient is likely to appear quite intact, and the clinician might not address more subtle indications of psychological disturbance. In addition, regardless of the amount of distress experienced, the typical aviator will likely attempt to conceal as much of his or her symptomatology as possible. Aviators are leery of mental health professionals, and they protect their flight status. They understand the medical regulations and are aware that any psychiatric diagnosis may result in an end to their flying careers.

These considerations necessitate several modifications in the psychological examinations of flight personnel. Whenever possible, the initial visit should be scheduled with the psychologist and not the behavioral science specialist. The typical community mental health model of initial interview and staffing by the technician runs the risk that the patient will be "cleared" without seeing a mental health professional, and potentially significant aeromedical issues will not be addressed. Also, the pilot should not be relied on as the sole source of information. Spouses, commanders, instructor pilots or other members of the aviation community should also be interviewed, especially when issues of duty performance are involved (Black, 1983). Rarely is an aviation medicine evaluation a one contact consultation. Multiple visits are likely necessary to establish rapport and obtain the needed information for a thorough evaluation.

The use of psychological tests as adjunctive diagnostic aids raises additional considerations in aviation medicine consultation. The most important consideration is the applicability of clinical "norms." Aviators are a select group who probably do not resemble the general population on psychological tests. Research from the U.S. Air Force suggests that the average intellectual quotient among their pilots is 123 (Jones, 1985). In addition, pilots tend to score higher on scales 4 and 9 of the MMPI than their non-flying cohorts. Successful naval aviators tend also to have higher K scores and lower D and Pt scores than the general population. Thus, psychologists must attend to more subtle indicators of psychopathology on psychological tests involving aviators and should evaluate protocols with regard to the general population and the aviation population. In order to facilitate this, an adjusted MMPI profile sheet is included in Appendix B based upon U.S. Air Force norms. Pilot norms from the U.S. Navy are included in Appendix C. No clinical norms are as yet available for Army pilots, but in all likelihood they resemble those of the other branches.

An additional concern in the use of psychological testing in aviation medicine consultation concerns the selection of appropriate tests. Outside of the nature of the referral question, a central consideration in the choice of appropriate tests involves the potential yield of the test when administered to a pilot. Studies of the pilot personality generally indicate that the modal pilot lacks access to inner life and fantasy and has a low tolerance for ambiguity. These are generally characteristics which do not favor the use of projective measures, especially the more unstructured Rorschach inkblots. Empirical research (Fine and Hartman, 1968) and clinical experience (Edwards, 1985) suggest that semi-structured measures such as the Thematic Apperception Test and Sentence Completion Test may have greater clinical utility for the amount of time invested. Strongin (1986) has also developed TAT stimuli which reflect aviation situations. Nevertheless, it is this author's belief that projective tests can be used quite effectively with aviators provided that the psychologist has established proper patient rapport and is open and direct about the nature and use of the test information.

#### AEROMEDICAL CONSIDERATIONS IN PSYCHOLOGICAL DISPOSITIONS

Psychological disposition of aviation medicine consultations requires attention to several important details. First, unless the focus of consultation is on an issue that is not due to a psychiatric disorder (i.e., marital problems or other DSM-III "V" Codes), a psychiatric disorder will disqualify the aviator from aviation service and is cause for immediate grounding by the flight surgeon. Therefore, the flight surgeon should be notified of any findings as soon as realistically possible after the consultation. Psychologists should not be cavalier about their use of the diagnostic codes. Second, if the focus of consultation involves a condition other than a psychiatric disorder, the psychologist must assess the potential for this condition to temporarily impair the aviator's capacity to adaptively suppress internal psychological distress and operate in a task-oriented way. This information can be obtained from psychological tests (e.g., MMPI scales 1, 2, 7.0; Rorschach D, AdjD, Lambda) and by directly questioning the individual about the effect of his or her condition on their capacity to fly (e.g., "Do you think you should be flying now?"). Most pilots will welcome temporary grounding initially during times of psychological stress.

Psychotherapy in and of itself is not cause for grounding; however, there may be times in psychotherapy during which time the pilot may become too distressed or preoccupied to perform flying duties safely. At these times, the pilot should be temporarily grounded until a new level of adaptation is complete. For these reasons, continued treatment of flight personnel requires a good working relationship between the psychologist and both the flight surgeon and aviation commander.

#### PRACTICAL CONSIDERATIONS IN AVIATION MEDICINE CONSULTATION

Aside from the clinical considerations in effective aviation medicine consultation, there are some practical considerations which can appreciably affect the quality and utility of the consultation. Any psychologist involved in aviation medicine consultation should be thoroughly familiar with the standards of medical fitness for aviation personnel (AR 40-501, Chapter 4).

It is critical to the psychologist's effectiveness in aviation medicine consultation that he or she be perceived as a member of the aviation medicine team. This perception can be fostered in several ways. First, whenever possible, the psychologist should perform consultations at the aviation medicine clinic. The pilot is more comfortable in this setting than at the psychology clinic. This will facilitate the pilot's acceptance of the psychologist as a member of this aviation medicine team, thereby enhancing credibility.

The psychologist should attempt to spend time at the flight line becoming familiar with the mission of the unit, the personnel, and the unit dynamics. The psychologist should seek to establish professional relationships with the commander, unit safety officer and unit operations officer. These individuals are familiar with the inner workings of the unit and can be invaluable sources of information during clinical consultations.

Whenever possible, the psychologist should attempt to fly with the unit. This provides a real sense of "bonding" with the aviator, an appreciation of the duties of the pilot, and of the capabilities required for safe flying. Flight experience will also enhance the psychologist's credibility when making recommendations regarding flight status.

Finally, the psychologist should be prepared for some initial anxiety about his or her role and presence. Expect aviation personnel to be guarded and to be somewhat distant in their interactions with you. It is important to be genuine and open while interacting with aviators and not clinical or aloof. As pilots perceive the psychologist's genuine interest in their well-being, they will become much less defensive and guarded and will enthusiastically accept the psychologist as a member of the aviation medicine team.

#### ADDITIONAL ROLES FOR AVIATION CLINICAL PSYCHOLOGISTS

As clinical psychology becomes more integrated into the aviation medicine team, it is likely that psychologists will find innovative applications for their services. There has been a growing interest within aviation medicine in promoting health among aviators. Such a proactive approach promises to preserve and lengthen the productive lives of aviators and result in better retention of trained and experienced officers (Mayman, 1988; Wherly, 1983). Thus, psychologists skilled in preventive behavioral medicine approaches will likely find easy application in aviation for stress management programs, smoking cessation programs, and other educational programs oriented to health maintenance and preventive medicine.

Psychologists will also find their clinical skills to be quite helpful in assisting flight evaluation boards with determinations for continued fitness for aviation duty. In addition, the clinical psychologist can be an important consultant in aviation safety programs identifying aviators at risk for human factors accidents as a result of psychological functioning, and assisting in mishap investigation by providing psychological autopsies or by using hypnosis to refresh recollection and enhance recall of accident events (Hiland & Dziwiskowski, 1984). Obviously, such specialized applications require considerable expertise available only through aviation training and experience. Current AMEDD clinical psychology training programs do not adequately meet the needs for preparing clinical psychologists for the

increasing responsibilities in aviation medicine consultation. As a result, the viability and the expansion of psychology in this area is severely threatened.

### TRAINING AVIATION CLINICAL PSYCHOLOGISTS

Currently, there is no formal mechanism within the AMEDD to train qualified and interested clinical psychologists in the fundamental principles of aviation medicine consultation. Until 1984, aviation clinical psychologists were self-educated in aeromedical issues and applications of psychology. For the first time in 1984, a clinical psychologist was allowed to complete the Army Flight Surgeon Course. In 1986, a second psychologist completed this course. These trained aviation clinical psychologists have practiced exclusively at Fort Rucker, Alabama.

In addition to the basic training in aviation medicine provided by the flight surgeon course, it has become evident that psychologists will require additional training in the application of psychological techniques to the aviation environment. Therefore, it is believed that the adequate training of clinical psychologists in aeromedical applications of psychology can best be accomplished by the establishment of an Aviation Clinical Psychology Course to be run in conjunction with the Army Flight Surgeon Course at the U.S. Army School of Aviation Medicine, Fort Rucker, Alabama. In addition, aviation clinical psychologists should be awarded an Additional Skill Identifier (ASI) for use in matching placement with operational needs.

It is recommended that aviation clinical psychology training be mandated for psychologists assigned to targeted installations supporting large aviator populations (e.g., Campbell, Hood, Bragg) or special operations units (e.g., Task Force 160). In lieu of a separate Army program, aviation clinical psychology training may be accomplished in conjunction with the already established U.S. Air Force program. Failure to act on either alternative will result in a lack of aviation clinical psychology resources in the AMEDD by end FY90. It will also signal a missed opportunity to develop an innovative psychology program to enhance the operational readiness and well-being of the Army's most highly trained personnel and to impact the very costly sources of self-generated human error aircraft mishaps.

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## APPENDIX A

### 4-30. Adaptability Rating for Military Aeronautics (ARMA)

a. The ARMA is required for all initial flying duty examinations, Classes 1, 1A, 2, 2A, and 3 and, when indicated, for periodic examinations. The cause of medical unfitness for flying duty, all classes, is an unsatisfactory ARMA due to failure to meet minimum standards of aptitude or psychological factors, or otherwise considered not to be adaptable for military aeronautics.

b. An unsatisfactory ARMA is mandatory if any of the following conditions are present:

(1) Concealment of significant and/or disqualifying medical conditions on the history form or during interviews.

(2) Presence of any psychiatric condition which in itself is disqualifying under Chapter 2 or Chapter 4.

(3) An attitude toward military flying that is clearly less than optimal (e.g., the person appears to be motivated overwhelmingly by the prestige, pay, or other secondary gain rather than the flying itself).

(4) Clearly noticeable personality traits such as immaturity, self-isolation, difficulty with authority, poor interpersonal relationships, impaired impulse control, or other traits which are likely to interfere with group functioning as a team member in a military setting, even though there are insufficient criteria for a personality disorder diagnosis.

(5) Review of the history or medical records reveals multiple or recurring physical complaints that strongly suggest either a somatization disorder or a propensity for physical symptoms during times of psychological stress.

(6) A history of arrests, illicit drug use, or social "acting out" which indicates immaturity, impulsiveness, or antisocial traits. Experimental use of drugs during adolescence, minor traffic violations or clearly provoked isolated impulsive episodes may be accepted but should receive thorough psychiatric and psychological evaluation. (See also para 4-24n.)

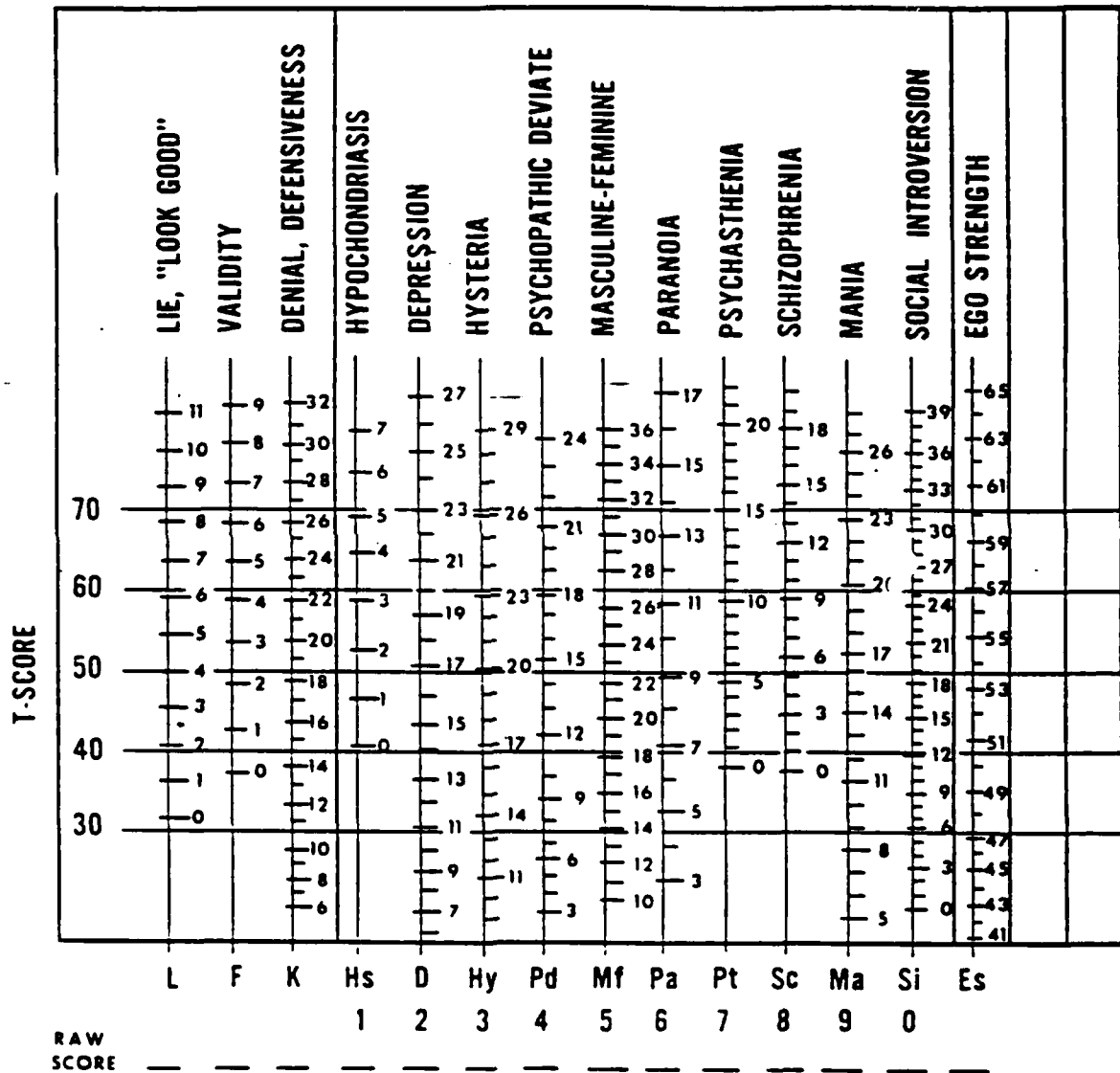
(7) Significant prolonged or currently unresolved interpersonal or family problems (e.g., marital dysfunction; significant family opposition or conflict concerning the service member's aviation career), as revealed through record review, interview or other sources which would be a potential hazard to flight safety or would interfere with flight training or flying duty.

c. An unsatisfactory ARMA may be given for lower levels (symptoms and signs) than those mentioned in b above if, in the opinion of the flight surgeon, the mental or physical factors might be exacerbated under the stress of military aviation or the person might not be able to carry out his or her duties in a mature and responsible fashion. Additionally, a person may be disqualified for any combination of factors listed in b above and/or due to personal habits or appearance indicative of attitudes of carelessness, poor motivation or other characteristics which are unsafe or undesirable in the aviation environment.

# Appendix B

NAME \_\_\_\_\_ SEX \_\_\_\_\_ AGE \_\_\_\_\_ EDUC \_\_\_\_\_ MARITAL \_\_\_\_\_  
 SSAN \_\_\_\_\_ RANK \_\_\_\_\_ AERO RATING \_\_\_\_\_ AIRCRAFT \_\_\_\_\_ FLYING HRS \_\_\_\_\_  
 CASE NO \_\_\_\_\_ TEST DATE \_\_\_\_\_ MMPI FORM \_\_\_\_\_

## THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY\*



### USAF AIRCREW NORMS\*

THIS PSYCHOGRAPH IS BASED UPON N=247 (72% PILOT) NORMAL, OPERATIONAL USAF AIRCREWMEN VOLUNTEERS TESTED AT USAFSAM DURING 1963-64 TO HELP DEVELOP APOLLO ASTRONAUT SELECTION CRITERIA. FINE & HARTMAN (1968) SUMMARIZED A PORTION OF THESE DATA. T-SCORES WERE DERIVED FROM MEAN RAW SCORES WITHOUT K-CORRECTION FOR ALL 247 Ss. TO COMPARE AN AEROMEDICAL REFERRAL WITH AIRCREW NORMS, USE THE CLIENT'S K-UNCORRECTED RAW SCORE FOR EACH MMPI SCALE. COMPILED BY R. WHEATLEY, PH. D., SAM/NGN, FALL 78.

## APPENDIX C

### MMPI PILOT NORMS

1. The Flight Surgeon performing a psychological examination on designated Naval Aviators may well be aware that mental characteristics of this group of people are atypical in comparison to the general population. Consequently, psychological evaluations, based on test parameters derived for the general population, provide misleading venues for the aeromedical examiner.

2. A series of normative studies established the utility and efficacy of personality testing in the aviation milieu. The Flight Surgeon may want to use these data for psychological formulations in regard to student and designated Naval Aviators. Using the MMPI with the "newly" derived norms has increased the level of confidence, at NAMI, when making aeromedical dispositions. Specific figures, research design, etc. will be submitted for ASMA publication.

3. This note intends to quickly disseminate practical findings applicable to the Flight Surgeon. You can use the new norm for your squadron pilots. The "validity and the basic clinical scales" are printed in the following format: raw score mean followed by standard deviation for the scale. T scores (standard score) is computed by using the formula  $T = 50 + 10 [(raw\ score - mean)/standard\ deviation]$ .

L = 4.3/2.0  
F = 3.1/3.0  
K = 19.0/4.2  
Hs = 1.8/2.1  
D = 16.6/3.3  
Hy = 19.5/3.9

Pd = 13.4/3.6  
Mf = 22.8/3.5  
Pa = 9.4/2.3  
Pt = 5.9/4.2  
Sc = 6.0/6.5  
Ma = 15.9/3.6  
Si = 17.7/6.4

4. Note there was no K correction added on scales Hs, Pd, Pt, Sc, and Ma. It was counterproductive, thus not used for aviators.

5. Scale elevators indicative of emotional disturbance and traits incompatible with aviation safety were identified. Elevated D, Pt, and lowered K scores were highly correlated with grounding of pilots at NAMI. Note that these relatively elevated scales for grounded pilots were within the normal range for the general population. You may want to share this information with the Psychiatry Department of your station. That way you can receive better mental health support. For further information, contact NAMI Psychiatry, AV 922-4238.

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## SANITY BOARDS

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This paper reviews (a) what a sanity board is and when it is held (b) the role of the clinical psychologist on sanity boards, (c) relevant sections of the Uniform Code of Military Justice and rules of Court Martial, and (d) sample board write ups.

There are three likely situations when a sanity board may be requested. By far, the most common arises when a person is accused of a crime, and the issue of mental competence or responsibility is raised. A sanity board may also be required for a person who has been convicted and is now appealing the case or is pending a rehearing. A case may not be finalized if the issues of competence and responsibility have not been resolved. The third situation when a sanity board may be required is for a person awaiting execution. In this case it is necessary to determine that the person understands "the punishment to be suffered and the reason therefore."

Clinical psychologists are authorized board members by Rule of Court Martial (R.C.M.) 706 which describes the process and content of sanity boards. Paragraph (c)(1) which defines who may serve on the boards, was amended in 1986 (change 3) to allow clinical psychologists on the board.

(1) By whom conducted. When a mental examination is ordered under this rule, the matter shall be referred to a board consisting of one or more persons. Each member of the board shall be either a physician or a clinical psychologist. Normally, at least one member of the board shall be either a psychiatrist or a clinical psychologist. The board shall report as to the mental capacity or mental responsibility or both of the accused.

This rule applies to offenses committed after November 14, 1986. If the offenses occurred prior to this date, the previous version of this rule applied allowing only physicians to serve as board members. The previous version states:

(1) By whom conducted. When a mental examination is ordered under subsection (b) of this rule, the matter shall be referred to a board of one or more physicians for their observation and report as to the mental capacity or mental responsibility, or both of the accused. Ordinarily at least one member of the board shall be a psychiatrist.

Prior to beginning a board there are several steps one must take to insure that the board findings are upheld. These include

1. Advise the patient of his Article 31 rights which include the right not to participate in the board and the right to refuse to answer any or all questions.

2. Insure the patient has consulted with a lawyer and has been advised of his charges, rights, and the function/purpose of the board.
3. Inform the patient that the proceedings/findings of the board are not confidential.
4. Inform the patient of the purpose of the board and discuss the process that will be followed (e.g., 1-2 hours, many questions).

The questions that must be answered are outlined in R.C.M. 706 (c)(2):

(2) Matters in inquiry. When a mental examination is ordered under this rule, the order shall contain the reason for doubting the mental capacity or mental responsibility, or both, of the accused, or other reasons for requesting the examination. In addition to other requirements, the order shall require the board to make separate and distinct findings as to each of the following:

(A) At the time of the alleged criminal conduct, did the accused have severe mental disease or defect? (The term "Severe mental disease or defect" does not include an abnormality manifested only by repeated criminal or otherwise antisocial conduct, or minor disorders such as nonpsychotic behavior disorders and personality defects).

(B) What is the psychiatric diagnosis?

(C) Was the accused, at the time of the alleged criminal conduct and as a result of such severe mental disease or defect, unable to appreciate the nature and quality or wrongfulness of his or her conduct?

(D) Does the accused have sufficient mental capacity to understand the nature of the proceedings and to conduct or cooperate intelligently in the defense?

Other appropriate questions may also be included. Essentially this requires a determination if at the time of the alleged offense the patient had a severe mental disorder or defect. While not clearly outlined in DSM-III-R terms, this would certainly include psychotic diagnoses, organic diagnoses (e.g., Alzheimer's) and affective diagnoses. Clearly ruled out are antisocial personality disorder or other compulsive behaviors that only involve criminal conduct. There is still a large area left open for interpretation. If a diagnosis is made this must be clearly stated in definitions and should not, if at all possible, include qualifying terms such as "may, possibly, or rule out."

If the patient is found to have a severe mental disorder or defect, it is next necessary to determine if, as a result of this mental disease or defect, the patient was unable to appreciate the nature and quality or wrongfulness of the action. It is clearly possible that a person meets the diagnostic criteria for a severe disorder and yet this disorder does not impact on his alleged criminal behavior.

The board must also determine if the accused has the mental capacity to understand the criminal proceedings and to assist in his own defense. If a person is not found to be competent to proceed with the judicial proceedings then an accurate determination of responsibility generally can not be made and the responsibility question should be deferred.

The job of the clinical psychologist as a member of the board is not to determine if a person is lying, and the results should be stated in terms that make clear the findings are based on the patient's report (e.g., according to the patient). You also are not required to answer any questions other than those specified in R.C.M. 706 (c)(2) or ordered by the judge. The defense and/or prosecuting attorneys may request (in terms that resemble an order) that you answer other questions, such as what was the role of childhood abuse in the crime. These questions do not need to be answered unless the judge subsequently orders them to be. Additionally, attorneys can not require that specific assessment measures be administered or that any specific assessment be conducted.

The information that has been presented provides an introduction to some of the factors that need to be considered when conducting sanity boards.

## SANITY BOARDS

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1. Always begin sanity evaluation by informing "patient" of Article 31 rights (UCMJ) -- if "patient" declines to proceed, stop, and report that couldn't perform evaluation because defendant chose to exercise his Article 31 rights.
2. Any DSM-III or DSM-III-R disorder, except Anti-social Personality Disorder, is a mental disease or defect under UCMJ. However, making the diagnosis does not automatically mean the person is incompetent to stand trial or was impaired at the time of the crime -- need to still evaluate those issues.
3. Be honest -- if you can't come to a conclusion about one or more issues, report that -- don't guess, or don't make conclusions you don't feel reasonably OK about. If you can, state what would have to change for the person to be competent to stand trial, or what other information you would need to make a determination of impairment at the time of the crime.
4. When appropriate, state that the person was impaired at the time of an alleged crime "due to intoxication, but due only to intoxication and not due to any other mental disease or defect".
5. Keep reports reasonably brief (two pages is usually adequate).
6. The Sanity Board is not responsible for determining if the defendant is lying.
7. Don't put an excessive amount of time into Sanity Boards.
  - a. Focus on just the questions you need to answer -- usually, competency to stand trial and mental state at time of alleged crime. (If no mental disease or defect at time of alleged crime, then there is no need to evaluate mental state at time of crime any further.)
  - b. Be judicious in use of psych testing -- use only if can help answer the questions you need to answer ("a" above). If psychiatrist/physician asks for psych testing, ask them to be specific about what questions they would like testing to answer.
8. You're an impartial expert/evaluator -- you don't work for the defense or prosecution.
9. Try to establish ongoing liaison with JAG -- once established, encourage attorneys to discuss cases with you instead of automatically submitting them for formal sanity evaluations.

STATE OF THE ART INTERVIEWING  
(WITH SPECIAL EMPHASIS ON THE ASSESSMENT OF INTEGRITY)

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What is the secret of interviewing effectively? It lies in the application of long used, but only recently understood, principals of how and why people communicate information to others.

Recent research on the structure and function of the brain, the orienting response, the process of memory, the dynamics of transference, and the interaction between verbal and nonverbal communication has provided a framework for unlocking the mechanisms of effective interviewing. Effectiveness relies on an analysis of oneself and the subject and on knowledge of the strategies and techniques of interviewing. A lot of common sense skills are used to assess people and their communications.

#### THE INTERVIEWER

Anyone intending to become an effective interviewer must develop some prerequisite skills. He must develop sensory acuity--the ability to attend to small behavioral cues and indicators that occur rapidly and disappear quickly following a deception. Flexibility is critical for quick recognition of deception, permitting the interviewer to respond with probes to counter it. Another "tool" that is necessary for the interviewer is the ability to establish rapport with the person, facilitating the identification of incongruencies in behavior that may represent deception. Finally, one must work continuously to overcome mental barriers which inhibit effective listening and understanding during the interview process.

#### THE SUBJECT

An individual is a collection of behaviors, motives, beliefs and attitudes that make up the loosely knit concept of "personality." The successful interviewer has some idea or template about what he believes constitutes the structure of personality. The interviewer uses this framework to develop an understanding of what makes the person tick, what constitutes his motives for applying for a position, and his unique manner of communicating information.

The individual's personality pattern will have an impact on the interview. This "pattern" is made up of responses that identify what makes the individual tick, what motivates him, and what interviewing tactics will most effectively influence his behavior. One such framework is that shown in Figure 2 (MBTI). The interviewer can work with this "personality pattern" effectively when the following principles are understood and applied to ensure accurate and honest information gathering.



- a. Nonverbal communication accounts for about 80% of communication.
- b. About 80% of communication is manifest in the face and eyes of the person.
- c. Deceptive communication is different from honest communication. Deceptive individuals experience high states of anxiety which must be released or "leaked." This "leakage" usually occurs in the form of autonomic (the polygraph theory), or automatic behaviors that are difficult to control even when they are pointed out to the individual.

Subject analysis is critical and occurs throughout the interview. This analysis is never completely systematic and is constantly refined. The interview strategy is chosen and modified to ensure that a complete picture of the subject's personality structure is understood before the interviewer applies any strategy or tactic.

### THE PROCESS

Interviewing is more than just a review of the pertinent facts or information on an application. It is a process of assessing the applicant's attitudes, values and beliefs, and, most importantly, behaviors. An effective interview involves not only the verification of facts, but an understanding of how the person acts in the decision making process, and how he or she responds to unfamiliar events. This constitutes the major structural focus of the interview. The interviewer may also be interested in the veracity of the information provided by the individual since the trust component of the working relationship sets the tone for all future interaction.

The resourceful interviewer must learn to recognize the subtle nonverbal cues that occur during the interview which give an indication that deception is taking place. These tell-tale signs indicate that deception is present and may signal specific areas of deception.

This recognition process is not something magical or merely intuitive. It is based upon cues that are a product of the person's deep seated unconscious anxiety about the consequences associated with being caught or discovered in an illegal act which is similar to the discomfort associated with deceiving someone we care about. The magnitude of this unconscious response is dependent upon the nature of the deception and the regard that the person has for the listener. Even trivial deception can produce a noticeable anxiety response.

All of us have had experience with deception. One can deceive fairly easily, especially if the deception is minor. Sometimes, we justify a lie to ourselves by saying, "It was the right thing to do at the time." However, few of us can lie without a feeling of tightness in the stomach or some involuntary change in facial expression or without diverting our eyes from the person with whom we are speaking. These are nonverbal or subconscious responses of deception that are difficult to control and which often "leak" our underlying deceptiveness, revealing our guilt.

This "leakage" is a product of a primitive physiological mobilization process (the "fight or flight" survival mechanism). The "leakage" behavior is quite specific, but it varies across individuals and between subcultures. Therefore, if the interviewer is to recognize and understand the meaning of these unconscious, and often fleeting, micro-behaviors, he must establish a baseline to calibrate these indicators for each person. Thus, one establishes a frame of reference or context for examining the meaning of these behavioral responses.

## TACTICS AND STRATEGIES

In order to insure that accurate information is gathered, interviewing strategies have been developed that will reduce the mental barriers associated with a perceived threatening situation. Most interviewers are only familiar with the traditional approach to information gathering which uses the who, what, where, when, and why questions. What is needed is a questioning strategy that greatly increases the amount of valid, accurate information that the interviewer can obtain from an individual.

**DEVELOPING RAPPORT** - Establishing one's credibility is an essential step in the development of trust, a necessity for an effective interview. For a long time it was believed that such trust either happened or it did not. Now, we know that there are techniques that we can use that will ensure that an applicant will risk involvement and self disclosure, overcoming mental barriers inherent to such interactions. This can be accomplished when the interviewer demonstrates a genuine respect for the person, and shows an understanding of his needs and desires from the outset of the interview.

**CONGRUENCE** - First impressions may not always be correct, but they are often lasting. Most interaction with a subject during an interview is carried on at the nonverbal level. This area is what is called image management. The manner of dress, the behavior, and the gestures used must match the individual's expectations of the role that the interviewer is playing if he is to be credible from the interviewee's perspective. Words, volume and tone, rate of speech, gestures, facial expression and posture assist others in judging the congruity between what is said and what is meant.

Establishing a reputation via formal introduction is often risky because it assumes a common experience base with the individual which may not be realistic. Sharing anecdotes or comments in the context of the conversation, with reference to prior working relationships, and discussing facts and experiences that can only be obtained through experience in the field build credibility. Such sharing throughout the interview, lays the ground work for honest self disclosure later on.

**DEMONSTRATE ACCEPTANCE** - The interviewer should demonstrate acceptance, interest and respect for the subject by being prompt, attentive and free from distraction during the interview. He should review the purpose and format for the interview and acknowledge questions in "the person's own language." He should bond the person to him by focusing on common experiences or perspectives. Use gestures and expressions that link you together through some mutual back-ground or common roots. Your open acceptance and positive treatment signal a degree of safety to the applicant that occurs at the subconscious level.

**PACING AND LEADING** - After you have joined the individual at the subconscious level, the resulting dialogue is easy. Pinpoint the hidden norms, concerns and experiences. Use these as "hooks" to pace the individual being interviewed. Tell stories designed to establish credibility and set the occasion for open self disclosure of information. Elicit information to assist you in understanding the emotional state, defensiveness, and resistance. These factors reveal to you which mental barriers must be overcome if honest information is to be collected.

**REFRAMING** - If doubts or resistance surface, pace them by reframing these as exception rather than expectation. For example, "I see, what you mean is that. . . ." or "This was not your intention, but you were trapped by the situation." Acknowledge doubts as assets, or the reported behaviors as reasonable and understandable under the circumstances. Each of us wants to be accepted and to have our behavior understood.

**THE ELICITATION OF HONESTY** - The process of deceptive communication is different from other types of communication. Most of us have experienced the initial discomfort that occurs when we have someone tell us something while their behavior makes us suspicious of its truthfulness.

The real trick is for the interviewer to create an expectancy of honesty, a mind set that, when developed, leads to a subject's virtual inability to violate it. In a psychological sense, it shifts the normal anxiety associated with admitted wrongdoing to the anxiety associated with lying to someone who is deeply loved and respected (e.g., comparable to lying to one's mother or father).

Even though this transference on the part of the subject is unrealistic, it creates an excess of anxiety and results in the subject being far more willing to admit to error. Admission to errors in judgement, mistakes or impulsive acts is more easily endured than the experience of anxiety that accompanies violating this primordial bond that the interviewer has tapped into.

By guiding and reframing the subject to the benefits of honesty and playing on the deep seated taboo of lying to one's parents as well as the sense of relief they will experience by relieving the burden of guilt that they are carrying. Figure 4 outlines this process of reframing anxiety as a by-product of deception rather than one due to the fear of consequences associated with being caught.

With this subtle reframing introduced, you will be amazed at what people will disclose about themselves. This is even more surprising in light of the fact that these disclosures may result in the loss of the job or position. However, the illogical nature of the disclosures ignores the basic therapeutic effect of the interview and the resulting sense of relief that the subject feels with the sharing of this anxiety provoking material.

**CATCHING THE PATHOLOGICAL LIAR** - Almost all liars are betrayed by their own behavior, but most of us are not skilled lie-catchers. In fact we sometimes cooperate with the liar by not really wanting to know the truth, letting the signals slip by.

The pathological liar has learned to use certain tricks to influence others about their trustworthiness. They typically "over state," "overreact" and "over do" their actions. We expect a liar to be evasive and dodge the issue. Liars know this so they don't do it. They have learned not to avert their eyes or turn away from an accuser. In fact, they seem to be too controlled and sustain eye contact far too long. The real clues to look for in an accomplished or pathological liar are the subtle ones such as the half shrug, the lip bite, the forced smile, or the facial touch.

Detecting a practiced liar is not easy, but it is a skill one must cultivate. To be effective, the interviewer must learn the tell-tale signs of anxiety that are incongruent with what is being said. Even the pathological liar cannot control all of the anxiety "leakage," since it is not under voluntary control.

The body cannot help but "leak" these symptoms which manifest as incongruous facial responses or gestures. The face, nose, speech, and body movements are the first places to look. Fragments or gestures or slips of the tongue are signals something isn't right. We also have to realize that there are several ways to lie: to omit, to distort, to fabricate or to conceal. All of them are betrayed by some aspect of the deceiver's behavior--usually comparable to distress or worry. This leakage may also be evident by the lack of appropriate gestures or movements that characterize moral behavior for that individual. It is important to look for patterns, and behaviors or actions that are inappropriate to the pattern.

The interviewer also must avoid creating the "false positive error" by creating a self-fulfilling response in the subject. This common mistake is the provocation of an emotional response inadvertently in an innocent person and interpreting it as deception. This could be called the "Othello" error in which Othello's suspicion of Desdemona, who he suspects of infidelity, is so strong that it causes the person to panic and therefore appear deceptive.

Despite these potential pitfalls, most interviewers can improve their skills at "lie catching." By attending to the facial expressions, voice inflections, body movements, and gestures you will learn to pinpoint individuals who are deceptive and be in a position to deal with them more effectively.

-A NOTE OF WARNING - Remember that some people you may be evaluating are excellent manipulators in their own right and will attempt to pace/lead you to focus on their strengths or where they want you to look. However, these are not what you are attempting to evaluate. Beware when the process seems too smooth, and without evidence of any resistance or discomfort when you probe sensitive areas. I have found over the years that tell-tale verbal remarks carry the interview, like "really to tell the truth," or "to be perfectly honest" or "I wouldn't tell most people this" are the subject's attempts to manipulate or deceive you and should cause you to reassess your interview strategy, since the response is really incongruent with the status of your rapport and is therefore probably not genuine at this point in the interview. Continue to look for these incongruities in other areas, for example, the "honest to God" remark with a major break in eye contact or shift in body orientation, or grooming movements of a hand to the mouth, nose, or face. These incongruous behaviors should give you food for thought and generate a healthy skepticism for the honesty of the person.

**DEALING WITH DECEPTION** - Once you have identified deception you have several options: (a) you can note it and ignore it, but it has provided you with a useful calibrated pattern of behavior that will reoccur when the individual lies again, or (b) you can modify your questions to elicit another response and use the implied threat, "Are you sure?" This is the equivalent of an attack; and if the individual is lying, his anxiety will be difficult for him to control, and it will be obvious. If at the same time you fix this peak of tension by moving into his personal space and letting the silence and your expression of expectation and disappointment exert pressure on him, you have created the potential opening for self disclosure. Allow the anxiety to build by remaining silent and to be directed inward, creating a tremendous pain that may trigger an admission. This type of control technique is essential if complete, accurate, and honest information is to be gathered from subjects of an interview.

There is no dictionary for nonverbal cues or signals with a list of definitions as to their meaning as there is for verbal symbols. However, there does seem to be a pattern of signals that emerges within individuals as they communicate. This pattern is not random, but an integral part of the person's communication process, situation, personality style, and surroundings. As interviewers, we should learn to attend to these significant pieces of information for evidence of incongruity and dissonance that provide valuable cues for assessing the honesty of the information we are collecting.

**CLOSURE OF THE INTERVIEW:** Before you actually terminate the interview leave the individual with a sense of having done the right thing. No matter how devastating the disclosures have been, it is important for the individual to go away with his self esteem intact. This act can create a bond with him that may serve you well in subsequent dealings. Make it clear to him that few people are perfect and that his disclosures, though part of the decision process, do not necessarily imply disqualification from consideration for the position. However, the failure to be honest would result in certain disqualification.

**CONCLUSION:** In summary, people reveal themselves not only through their verbal communication but by their mannerisms and reactions to others. We have often had someone tell us something and been left with an uneasy suspicion that he was not being completely honest with us. When we ask ourselves why, we may not know exactly, but we realize that it was something about their behavior that just didn't fit. Without realizing it, we have developed a "polygraph in our eye" that has calibrated behaviors for truthfulness. When we see something that is incongruent with that set of behaviors, we become suspicious. This is the time when we need to pay more attention to the music and ignore the lyrics of the conversation, since the real meaning of the communication is conveyed in the former.

EFFECTIVENESS OF PSYCHOTROPIC MEDICATIONS IN CHILDREN:  
AN OVERVIEW

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I. Based on well-designed, double blind, placebo-controlled studies with adequate sample size and length of time, medications seem to be indicated in children and adolescents as follows:

- a. Stimulants for hyperactivity and attention in ADDH/ADHD.
- b. Anti-psychotics for acute schizophrenia in adolescence (insufficient data on chronic use). (Not that effective in childhood schizophrenia, but we have nothing better to offer.)
- c. Haldol, Mellaril and Stelacizine for autism when given for a minimum of at least 2-3 months, when child is simultaneously involved in active behavior modification treatment and highly-structured full-day educational program.
- d. Anti-psychotics for aggressive behavior in mental retardation only if adequate trial of behavior modification has failed, and only in conjunction with continuing behavior modification efforts (medication alone not effective).
- e. Haldol for Tourette's Disorder.
- f. Antidepressants in Major Depression (full criteria) only if adequate psychosocial interventions have failed, only in conjunction with continued psychosocial treatment, and only if parents are reliable enough to administer medications as directed. (Antidepressants alone are not effective.)
- g. Imipramine for:
  - 1. Functional enuresis, if behavioral approaches ineffective.
  - 2. Sleep walking and night terrors.
  - 3. ADDH/ADHD children who fail to respond to stimulants.
  - 4. Separation anxiety disorder.
- h. Lithium for bona-fide mania/bipolar disorder.
- i. Lithium for conduct disorder with aggressive features.

## II. Other points:

- a. Do stimulants cause Tourette's Disorder: -- still controversial.
- b. Recent reports suggest stimulants may decrease hyperactivity in autistic children, contrary to past thinking, but with some adverse effects in mood.
- c. Fenfluramine is not effective in autism, contrary to earlier claims.
- d. Antipsychotics do decrease aggression in conduct disorder, but incidence of side-effects so high as to render their use impractical.
- e. No good data yet on the true incidence of tardive dyskinesia with chronic antipsychotic use.
- f. Anxiolytics not effective in anxiety disorders in children.
- g. Benzodiazepenes may paradoxically worsen aggressive behavior in the mentally retarded.

NOTE: "Not effective" as used anywhere above means that in studies, placebo was equally or more effective than the medication.